



SEQUENCE LISTING

<110> YAO, Yong
CAO, Liang

<120> Novel Cell-Based Assays for G-Protein-Coupled Receptor-Mediated Activities

<130> 40960-5001-US

<140> US 10/087,217

<141> 2002-03-04

<150> 60/330,663

<151> 2001-10-26

<160> 19

<170> PatentIn version 3.1

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<222> (1) .. (1992)

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His Arg Ala Gly Ser Arg Pro Gln Ser Val Ala Ala Asp Asp Asp Thr	
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Tyr	Leu	Ala	Arg	Glu	Tyr	Ile	Tyr	Cys	Leu	Tyr	Trp	Ser	Thr	Leu	Thr
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Leu	Thr	Thr	Ile	Gly	Glu	Thr	Pro	Pro	Pro	Val	Lys	Asp	Glu	Glu	Tyr
			340					345					350		
Leu	Phe	Val	Ile	Phe	Asp	Phe	Leu	Ile	Gly	Val	Leu	Ile	Phe	Ala	Thr
		355					360					365			
Ile	Val	Gly	Asn	Val	Gly	Ser	Met	Ile	Ser	Asn	Met	Asn	Ala	Thr	Arg
		370					375					380			
Ala	Glu	Phe	Gln	Ala	Lys	Ile	Asp	Ala	Val	Lys	His	Tyr	Met	Gln	Phe
385						390					395				400
Arg	Lys	Val	Ser	Lys	Asp	Met	Glu	Ala	Lys	Val	Ile	Lys	Trp	Phe	Asp
				405					410					415	
Tyr	Leu	Trp	Thr	Asn	Lys	Lys	Thr	Val	Asp	Glu	Arg	Glu	Val	Leu	Lys
			420					425					430		
Asn	Leu	Pro	Ala	Lys	Leu	Arg	Ala	Glu	Ile	Ala	Ile	Asn	Val	His	Leu
		435					440					445			
Ser	Thr	Leu	Lys	Lys	Val	Arg	Ile	Phe	Gln	Asp	Cys	Glu	Ala	Gly	Leu
		450				455					460				
Leu	Val	Glu	Leu	Val	Leu	Lys	Leu	Arg	Pro	Gln	Val	Phe	Ser	Pro	Gly
465						470					475				480
Asp	Tyr	Ile	Cys	Arg	Lys	Gly	Asp	Ile	Gly	Lys	Glu	Met	Tyr	Ile	Ile
			485						490					495	
Lys	Glu	Gly	Lys	Leu	Ala	Val	Val	Ala	Asp	Asp	Gly	Val	Thr	Gln	Tyr
			500					505					510		
Ala	Leu	Leu	Ser	Ala	Gly	Ser	Cys	Phe	Gly	Glu	Ile	Ser	Ile	Leu	Asn
		515					520					525			
Ile	Lys	Gly	Ser	Lys	Met	Gly	Asn	Arg	Arg	Thr	Ala	Asn	Ile	Arg	Ser
		530				535					540				
Leu	Gly	Tyr	Ser	Asp	Leu	Phe	Cys	Leu	Ser	Lys	Asp	Asp	Leu	Met	Glu
545						550					555				560
Ala	Val	Thr	Glu	Ala	Pro	Asp	Ala	Lys	Lys	Val	Leu	Glu	Glu	Arg	Gly
			565						570					575	
Arg	Glu	Ile	Leu	Met	Lys	Glu	Gly	Leu	Leu	Asp	Glu	Asn	Glu	Val	Ala

580						585						590					
Ala	Ser	Met	Glu	Val	Asp	Val	Gln	Glu	Lys	Leu	Glu	Gln	Leu	Glu	Thr		
595						600						605					
Asn	Met	Asp	Thr	Leu	Tyr	Thr	Arg	Phe	Ala	Arg	Leu	Leu	Ala	Glu	Tyr		
610						615						620					
Thr	Gly	Ala	Gln	Gln	Lys	Leu	Lys	Gln	Arg	Ile	Thr	Val	Leu	Glu	Thr		
625						630						635					
Lys	Met	Lys	Gln	Asn	His	Glu	Asp	Asp	Tyr	Leu	Ser	Asp	Gly	Ile	Asn		
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Thr	Pro	Glu	Pro	Thr	Ala	Ala	Glu										
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 <213> Rattus norvegicus

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1				5					10					15		
cat aac cat cat cct cct cct tct atc aag gcc aat ggc aaa gat gac															96	
His	Asn	His	His	Pro	Pro	Pro	Ser	Ile	Lys	Ala	Asn	Gly	Lys	Asp	Asp	
			20					25					30			
cac agg gca gga agc aga cca cag tct gtg gca gct gat gat gac act															144	
His	Arg	Ala	Gly	Ser	Arg	Pro	Gln	Ser	Val	Ala	Ala	Asp	Asp	Asp	Thr	
		35					40					45				
tct cca gaa cta caa agg ctg gca gag atg gat acc cct cgg agg ggg															192	
Ser	Pro	Glu	Leu	Gln	Arg	Leu	Ala	Glu	Met	Asp	Thr	Pro	Arg	Arg	Gly	
	50					55					60					
agg ggt ggc ttc caa agg att gtt cgc ctg gtg ggg gtc atc agg gac															240	
Arg	Gly	Gly	Phe	Gln	Arg	Ile	Val	Arg	Leu	Val	Gly	Val	Ile	Arg	Asp	
65				70				75						80		
tgg gcc aac aag aat ttc cgt gaa gag gaa cca agg cct gac tcc ttc															288	
Trp	Ala	Asn	Lys	Asn	Phe	Arg	Glu	Glu	Glu	Pro	Arg	Pro	Asp	Ser	Phe	
				85				90						95		
cta gag cgt ttc cgt ggg cca gaa ctc cag act gtg aca acc cat cag															336	
Leu	Glu	Arg	Phe	Arg	Gly	Pro	Glu	Leu	Gln	Thr	Val	Thr	Thr	His	Gln	
			100				105						110			

ggg gat gac aaa ggc ggc aag gac ggc gag gga aag ggc acc aaa aag Gly Asp Asp Lys Gly Gly Lys Asp Gly Glu Gly Lys Gly Thr Lys Lys 115 120 125	384
aaa ttt gaa ctg ttt gtt ttg gac cca gcc gga gac tgg tat tac cgt Lys Phe Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr Tyr Arg 130 135 140	432
tgg ttg ttt gtc att gcc atg cct gtt ctt tac aac tgg tgc ctg ttg Trp Leu Phe Val Ile Ala Met Pro Val Leu Tyr Asn Trp Cys Leu Leu 145 150 155 160	480
gtg gcc aga gcc tgc ttc agt gat cta cag aga aac tat ttt gtg gta Val Ala Arg Ala Cys Phe Ser Asp Leu Gln Arg Asn Tyr Phe Val Val 165 170 175	528
tgg ctg gtg ctg gac tac ttc tca gac act gtc tat atc gca gac ctc Trp Leu Val Leu Asp Tyr Phe Ser Asp Thr Val Tyr Ile Ala Asp Leu 180 185 190	576
atc att cgg ctg cgc aca ggc ttc cta gaa cag ggg ctc ttg gtc aaa Ile Ile Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Lys 195 200 205	624
gat ccc aag aaa ttg cga gac aac tat att cac act ttg cag ttc aaa Asp Pro Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Leu Gln Phe Lys 210 215 220	672
ttg gat gtg gct tct atc att ccc act gac ctt atc tat ttt gct gtg Leu Asp Val Ala Ser Ile Ile Pro Thr Asp Leu Ile Tyr Phe Ala Val 225 230 235 240	720
ggt atc cac agc cct gag gta cgc ttc aac cgt cta tta cac ttt gcc Gly Ile His Ser Pro Glu Val Arg Phe Asn Arg Leu Leu His Phe Ala 245 250 255	768
cgt atg ttt gag ttc ttt gac cgc act gag aca cgc acc agc tac ccc Arg Met Phe Glu Phe Phe Asp Arg Thr Glu Thr Arg Thr Ser Tyr Pro 260 265 270	816
aac atc ttc cga atc agc aat ctg gtc ctt tac atc ttg gtc atc atc Asn Ile Phe Arg Ile Ser Asn Leu Val Leu Tyr Ile Leu Val Ile Ile 275 280 285	864
cac tgg aat gct tgt att tat tat gtt att tct aag tcc att ggc ttt His Trp Asn Ala Cys Ile Tyr Tyr Val Ile Ser Lys Ser Ile Gly Phe 290 295 300	912
gga gtt gac acc tgg gtt tac ccc aac att act gac cct gaa tat ggc Gly Val Asp Thr Trp Val Tyr Pro Asn Ile Thr Asp Pro Glu Tyr Gly 305 310 315 320	960
tac ctg gct aga gag tac att tac tgt ctt tac tgg tcc aca ctg acc Tyr Leu Ala Arg Glu Tyr Ile Tyr Cys Leu Tyr Trp Ser Thr Leu Thr 325 330 335	1008
ctc acc acc att gga gag aca cca ccc cct gta aag gat gag gag tac	1056

Leu Thr Thr Ile Gly Glu Thr Pro Pro Pro Val Lys Asp Glu Glu Tyr	
340 345 350	
cta ttt gtc atc ttt gac ttc ttg att ggt gtc ctc atc ttt gcc act	1104
Leu Phe Val Ile Phe Asp Phe Leu Ile Gly Val Leu Ile Phe Ala Thr	
355 360 365	
att gtg gga aat gtg ggc tcc atg atc tcc aac atg aat gcc aca cga	1152
Ile Val Gly Asn Val Gly Ser Met Ile Ser Asn Met Asn Ala Thr Arg	
370 375 380	
gca gag ttc cag gcc aag att gat gct gtc aaa cac tac atg cag ttc	1200
Ala Glu Phe Gln Ala Lys Ile Asp Ala Val Lys His Tyr Met Gln Phe	
385 390 395 400	
cga aag gtc agc aaa gac atg gaa gcc aag gtc atc aaa tgg ttt gac	1248
Arg Lys Val Ser Lys Asp Met Glu Ala Lys Val Ile Lys Trp Phe Asp	
405 410 415	
tac ttg tgg acc aat aag aag aca gta gat gaa cga gaa gtc ctc aag	1296
Tyr Leu Trp Thr Asn Lys Lys Thr Val Asp Glu Arg Glu Val Leu Lys	
420 425 430	
aac ctg cca gca aag ctc agg gct gag ata gcc att aat gtt cac ttg	1344
Asn Leu Pro Ala Lys Leu Arg Ala Glu Ile Ala Ile Asn Val His Leu	
435 440 445	
tcc act ctg aag aaa gtg cgc ata ttc cag gat tgg gaa gct ggc cta	1392
Ser Thr Leu Lys Lys Val Arg Ile Phe Gln Asp Trp Glu Ala Gly Leu	
450 455 460	
ctg gtg gaa ctg gta ctg aag ctt cgt cct cag gtc ttt agt cct gga	1440
Leu Val Glu Leu Val Leu Lys Leu Arg Pro Gln Val Phe Ser Pro Gly	
465 470 475 480	
gat tat att tgc cgt aag ggg gac att ggc aag gaa atg tac atc atc	1488
Asp Tyr Ile Cys Arg Lys Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile	
485 490 495	
aag gag ggc aag ttg gca gtg gta gct gat gat ggc gtg act cag tat	1536
Lys Glu Gly Lys Leu Ala Val Val Ala Asp Asp Gly Val Thr Gln Tyr	
500 505 510	
gcc ttg ctc tca gct ggg agc tgc ttt ggt gag att agt atc ctt aac	1584
Ala Leu Leu Ser Ala Gly Ser Cys Phe Gly Glu Ile Ser Ile Leu Asn	
515 520 525	
att aag ggt agc aaa atg ggc aat cga cgt act gct aat atc cgt agc	1632
Ile Lys Gly Ser Lys Met Gly Asn Arg Arg Thr Ala Asn Ile Arg Ser	
530 535 540	
ctg ggc tac tca gat ctc ttc tgc ttg tcc aag gac gat ctt atg gaa	1680
Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met Glu	
545 550 555 560	
gct gta act gag tat cct gat gcc aag aag gtc ctg gag gaa cgg ggt	1728
Ala Val Thr Glu Tyr Pro Asp Ala Lys Lys Val Leu Glu Glu Arg Gly	

565	570	575	
agg gag atc ctg atg aag atg ggt cta ctg gat gag aat gaa gtg gca			1776
Arg Glu Ile Leu Met Lys Met Gly Leu Leu Asp Glu Asn Glu Val Ala			
580	585	590	
gct agt atg gag gta gat gtt cag gag aag ctg gaa cag ttg gag aca			1824
Ala Ser Met Glu Val Asp Val Gln Glu Lys Leu Glu Gln Leu Glu Thr			
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aac atg gat acc ttg tac act cgc ttt gcc cgc ctg ctg gct gag tac			1872
Asn Met Asp Thr Leu Tyr Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr			
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act ggg gcc cag cag aag ctc aag caa cgc atc aca gtg cta gag acc			1920
Thr Gly Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr			
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aag atg aaa cag aac cat gag gat gat tat cta tca gat ggg ata aac			1968
Lys Met Lys Gln Asn His Glu Asp Asp Tyr Leu Ser Asp Gly Ile Asn			
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His Arg Ala Gly Ser Arg Pro Gln Ser Val Ala Ala Asp Asp Asp Thr			
35	40	45	
Ser Pro Glu Leu Gln Arg Leu Ala Glu Met Asp Thr Pro Arg Arg Gly			
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Arg Gly Gly Phe Gln Arg Ile Val Arg Leu Val Gly Val Ile Arg Asp			
65	70	75	80
Trp Ala Asn Lys Asn Phe Arg Glu Glu Glu Pro Arg Pro Asp Ser Phe			
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Leu Glu Arg Phe Arg Gly Pro Glu Leu Gln Thr Val Thr Thr His Gln			
100	105	110	
Gly Asp Asp Lys Gly Gly Lys Asp Gly Glu Gly Lys Gly Thr Lys Lys			
115	120	125	

Lys Phe Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr Tyr Arg
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 Trp Leu Phe Val Ile Ala Met Pro Val Leu Tyr Asn Trp Cys Leu Leu
 145 150 155 160
 Val Ala Arg Ala Cys Phe Ser Asp Leu Gln Arg Asn Tyr Phe Val Val
 165 170 175
 Trp Leu Val Leu Asp Tyr Phe Ser Asp Thr Val Tyr Ile Ala Asp Leu
 180 185 190
 Ile Ile Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Lys
 195 200 205
 Asp Pro Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Leu Gln Phe Lys
 210 215 220
 Leu Asp Val Ala Ser Ile Ile Pro Thr Asp Leu Ile Tyr Phe Ala Val
 225 230 235 240
 Gly Ile His Ser Pro Glu Val Arg Phe Asn Arg Leu Leu His Phe Ala
 245 250 255
 Arg Met Phe Glu Phe Phe Asp Arg Thr Glu Thr Arg Thr Ser Tyr Pro
 260 265 270
 Asn Ile Phe Arg Ile Ser Asn Leu Val Leu Tyr Ile Leu Val Ile Ile
 275 280 285
 His Trp Asn Ala Cys Ile Tyr Tyr Val Ile Ser Lys Ser Ile Gly Phe
 290 295 300
 Gly Val Asp Thr Trp Val Tyr Pro Asn Ile Thr Asp Pro Glu Tyr Gly
 305 310 315 320
 Tyr Leu Ala Arg Glu Tyr Ile Tyr Cys Leu Tyr Trp Ser Thr Leu Thr
 325 330 335
 Leu Thr Thr Ile Gly Glu Thr Pro Pro Pro Val Lys Asp Glu Glu Tyr
 340 345 350
 Leu Phe Val Ile Phe Asp Phe Leu Ile Gly Val Leu Ile Phe Ala Thr
 355 360 365
 Ile Val Gly Asn Val Gly Ser Met Ile Ser Asn Met Asn Ala Thr Arg
 370 375 380
 Ala Glu Phe Gln Ala Lys Ile Asp Ala Val Lys His Tyr Met Gln Phe
 385 390 395 400
 Arg Lys Val Ser Lys Asp Met Glu Ala Lys Val Ile Lys Trp Phe Asp
 405 410 415
 Tyr Leu Trp Thr Asn Lys Lys Thr Val Asp Glu Arg Glu Val Leu Lys
 420 425 430

Asn Leu Pro Ala Lys Leu Arg Ala Glu Ile Ala Ile Asn Val His Leu
 435 440 445
 Ser Thr Leu Lys Lys Val Arg Ile Phe Gln Asp Trp Glu Ala Gly Leu
 450 455 460
 Leu Val Glu Leu Val Leu Lys Leu Arg Pro Gln Val Phe Ser Pro Gly
 465 470 475 480
 Asp Tyr Ile Cys Arg Lys Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile
 485 490 495
 Lys Glu Gly Lys Leu Ala Val Val Ala Asp Asp Gly Val Thr Gln Tyr
 500 505 510
 Ala Leu Leu Ser Ala Gly Ser Cys Phe Gly Glu Ile Ser Ile Leu Asn
 515 520 525
 Ile Lys Gly Ser Lys Met Gly Asn Arg Arg Thr Ala Asn Ile Arg Ser
 530 535 540
 Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met Glu
 545 550 555 560
 Ala Val Thr Glu Tyr Pro Asp Ala Lys Lys Val Leu Glu Glu Arg Gly
 565 570 575
 Arg Glu Ile Leu Met Lys Met Gly Leu Leu Asp Glu Asn Glu Val Ala
 580 585 590
 Ala Ser Met Glu Val Asp Val Gln Glu Lys Leu Glu Gln Leu Glu Thr
 595 600 605
 Asn Met Asp Thr Leu Tyr Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr
 610 615 620
 Thr Gly Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr
 625 630 635 640
 Lys Met Lys Gln Asn His Glu Asp Asp Tyr Leu Ser Asp Gly Ile Asn
 645 650 655
 Thr Pro Glu Pro Thr Ala Ala Glu
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cat aac cat cat cct cct cct tct atc aag gcc aat ggc aaa gat gac	96
His Asn His His Pro Pro Pro Ser Ile Lys Ala Asn Gly Lys Asp Asp	
20 25 30	
cac agg gca gga agc aga cca cag tct gtg gca gct gat gat gac act	144
His Arg Ala Gly Ser Arg Pro Gln Ser Val Ala Ala Asp Asp Asp Thr	
35 40 45	
tct cca gaa cta caa agg ctg gca gag atg gat acc cct cgg agg ggg	192
Ser Pro Glu Leu Gln Arg Leu Ala Glu Met Asp Thr Pro Arg Arg Gly	
50 55 60	
agg ggt ggc ttc caa agg att gtt cgc ctg gtg ggg gtc atc agg gac	240
Arg Gly Gly Phe Gln Arg Ile Val Arg Leu Val Gly Val Ile Arg Asp	
65 70 75 80	
tgg gcc aac aag aat ttc cgt gaa gag gaa cca agg cct gac tcc ttc	288
Trp Ala Asn Lys Asn Phe Arg Glu Glu Glu Pro Arg Pro Asp Ser Phe	
85 90 95	
cta gag cgt ttc cgt ggg cca gaa ctc cag act gtg aca acc cat cag	336
Leu Glu Arg Phe Arg Gly Pro Glu Leu Gln Thr Val Thr Thr His Gln	
100 105 110	
ggg gat gac aaa ggc ggc aag gac ggc gag gga aag ggc acc aaa aag	384
Gly Asp Asp Lys Gly Gly Lys Asp Gly Glu Gly Lys Gly Thr Lys Lys	
115 120 125	
aaa ttt gaa ctg ttt gtt ttg gac cca gcc gga gac tgg tat tac cgt	432
Lys Phe Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr Tyr Arg	
130 135 140	
tgg ttg ttt gtc att gcc atg cct gtt ctt tac aac tgg tgc ctg ttg	480
Trp Leu Phe Val Ile Ala Met Pro Val Leu Tyr Asn Trp Cys Leu Leu	
145 150 155 160	
gtg gcc aga gcc tgc ttc agt gat cta cag aga aac tat ttt gtg gta	528
Val Ala Arg Ala Cys Phe Ser Asp Leu Gln Arg Asn Tyr Phe Val Val	
165 170 175	
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Trp Leu Val Leu Asp Tyr Phe Ser Asp Thr Val Tyr Ile Ala Asp Leu	
180 185 190	
atc att cgg ctg cgc aca ggc ttc cta gaa cag ggg ctc ttg gtc aaa	624
Ile Ile Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Lys	
195 200 205	
gat ccc aag aaa ttg cga gac aac tat att cac act ttg cag ttc aaa	672
Asp Pro Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Leu Gln Phe Lys	
210 215 220	
ttg gat gtg gct tct atc att ccc act gac ctt atc tat ttt gct gtg	720

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ggt	atc	cac	agc	cct	gag	gta	cgc	ttc	aac	cgt	cta	tta	cac	ttt	gcc		768
Gly	Ile	His	Ser	Pro	Glu	Val	Arg	Phe	Asn	Arg	Leu	Leu	His	Phe	Ala		
				245					250					255			
cgt	atg	ttt	gag	ttc	ttt	gac	cgc	act	gag	aca	cgc	acc	agc	tac	ccc		816
Arg	Met	Phe	Glu	Phe	Phe	Asp	Arg	Thr	Glu	Thr	Arg	Thr	Ser	Tyr	Pro		
			260					265					270				
aac	atc	ttc	cga	atc	agc	aat	ctg	gtc	ctt	tac	atc	ttg	gtc	atc	atc		864
Asn	Ile	Phe	Arg	Ile	Ser	Asn	Leu	Val	Leu	Tyr	Ile	Leu	Val	Ile	Ile		
		275					280					285					
cac	tgg	aat	gct	tgt	att	tat	tat	gtt	att	tct	aag	tcc	att	ggc	ttt		912
His	Trp	Asn	Ala	Cys	Ile	Tyr	Tyr	Val	Ile	Ser	Lys	Ser	Ile	Gly	Phe		
	290					295					300						
gga	gtt	gac	acc	tgg	gtt	tac	ccc	aac	att	act	gac	cct	gaa	tat	ggc		960
Gly	Val	Asp	Thr	Trp	Val	Tyr	Pro	Asn	Ile	Thr	Asp	Pro	Glu	Tyr	Gly		
305					310					315					320		
tac	ctg	gct	aga	gag	tac	att	tac	tgt	ctt	tac	tgg	tcc	aca	ctg	acc		1008
Tyr	Leu	Ala	Arg	Glu	Tyr	Ile	Tyr	Cys	Leu	Tyr	Trp	Ser	Thr	Leu	Thr		
				325				330						335			
ctc	acc	acc	att	gga	gag	aca	cca	ccc	cct	gta	aag	gat	gag	gag	tac		1056
Leu	Thr	Thr	Ile	Gly	Glu	Thr	Pro	Pro	Pro	Val	Lys	Asp	Glu	Glu	Tyr		
			340					345					350				
cta	ttt	gtc	atc	ttt	gac	ttc	ttg	att	ggc	gtc	ctc	atc	ttt	gcc	act		1104
Leu	Phe	Val	Ile	Phe	Asp	Phe	Leu	Ile	Gly	Val	Leu	Ile	Phe	Ala	Thr		
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att	gtg	gga	aat	gtg	ggc	tcc	atg	atc	tcc	aac	atg	aat	gcc	aca	cga		1152
Ile	Val	Gly	Asn	Val	Gly	Ser	Met	Ile	Ser	Asn	Met	Asn	Ala	Thr	Arg		
	370					375					380						
gca	gag	ttc	cag	gcc	aag	att	gat	gct	gtc	aaa	cac	tac	atg	cag	ttc		1200
Ala	Glu	Phe	Gln	Ala	Lys	Ile	Asp	Ala	Val	Lys	His	Tyr	Met	Gln	Phe		
385					390					395				400			
cga	aag	gtc	agc	aaa	gac	atg	gaa	gcc	aag	gtc	atc	aaa	tgg	ttt	gac		1248
Arg	Lys	Val	Ser	Lys	Asp	Met	Glu	Ala	Lys	Val	Ile	Lys	Trp	Phe	Asp		
				405				410					415				
tac	ttg	tgg	acc	aat	aag	aag	aca	gta	gat	gaa	cga	gaa	gtc	ctc	aag		1296
Tyr	Leu	Trp	Thr	Asn	Lys	Lys	Thr	Val	Asp	Glu	Arg	Glu	Val	Leu	Lys		
			420					425					430				
aac	ctg	cca	gca	aag	ctc	agg	gct	gag	ata	gcc	att	aat	gtt	cac	ttg		1344
Asn	Leu	Pro	Ala	Lys	Leu	Arg	Ala	Glu	Ile	Ala	Ile	Asn	Val	His	Leu		
		435					440					445					
tcc	act	ctg	aag	aaa	gtg	cgc	ata	ttc	cag	gat	tgg	gaa	gct	ggc	cta		1392
Ser	Thr	Leu	Lys	Lys	Val	Arg	Ile	Phe	Gln	Asp	Trp	Glu	Ala	Gly	Leu		

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ctg gtg gaa ctg gta ctg aag ctt cgt cct cag gtc ttt agt cct gga			1440
Leu Val Glu Leu Val Leu Lys Leu Arg Pro Gln Val Phe Ser Pro Gly			
465	470	475	480
gat tat att tgc cgt aag ggg gac att ggc aag gaa atg tac atc atc			1488
Asp Tyr Ile Cys Arg Lys Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile			
	485	490	495
aag gag ggc aag ttg gca gtg gta gct gat gat ggc gtg act cag tat			1536
Lys Glu Gly Lys Leu Ala Val Val Ala Asp Asp Gly Val Thr Gln Tyr			
	500	505	510
gcc ttg ctc tca gct ggg agc tgc ttt ggt gag att agt atc ctt aac			1584
Ala Leu Leu Ser Ala Gly Ser Cys Phe Gly Glu Ile Ser Ile Leu Asn			
	515	520	525
att aag ggt agc aaa atg ggc aat cga cgt act gct aat atc cgt agc			1632
Ile Lys Gly Ser Lys Met Gly Asn Arg Arg Thr Ala Asn Ile Arg Ser			
	530	535	540
ctg ggc tac tca gat ctc ttc tgc ttg tcc aag gac gat ctt atg gaa			1680
Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met Glu			
	545	550	555
gct gta act gag gct cct gat gcc aag aag gtc ctg gag gaa cgg ggt			1728
Ala Val Thr Glu Ala Pro Asp Ala Lys Lys Val Leu Glu Glu Arg Gly			
	565	570	575
agg gag atc ctg atg aag atg ggt cta ctg gat gag aat gaa gtg gca			1776
Arg Glu Ile Leu Met Lys Met Gly Leu Leu Asp Glu Asn Glu Val Ala			
	580	585	590
gct agt atg gag gta gat gtt cag gag aag ctg gaa cag ttg gag aca			1824
Ala Ser Met Glu Val Asp Val Gln Glu Lys Leu Glu Gln Leu Glu Thr			
	595	600	605
aac atg gat acc ttg tac act cgc ttt gcc cgc ctg ctg gct gag tac			1872
Asn Met Asp Thr Leu Tyr Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr			
	610	615	620
act ggg gcc cag cag aag ctc aag caa cgc atc aca gtg cta gag acc			1920
Thr Gly Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr			
	625	630	635
aag atg aaa cag aac cat gag gat gat tat cta tca gat ggg ata aac			1968
Lys Met Lys Gln Asn His Glu Asp Asp Tyr Leu Ser Asp Gly Ile Asn			
	645	650	655
act cct gag cca act gct gct gaa taa			1995
Thr Pro Glu Pro Thr Ala Ala Glu			
	660		

<210> 8
<211> 664

<212> PRT

<213> Rattus norvegicus

<400> 8

Met	Met	Thr	Glu	Lys	Ser	Asn	Gly	Val	Lys	Ser	Ser	Pro	Ala	Asn	Asn	
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His	Asn	His	His	Pro	Pro	Pro	Ser	Ile	Lys	Ala	Asn	Gly	Lys	Asp	Asp	
			20					25					30			
His	Arg	Ala	Gly	Ser	Arg	Pro	Gln	Ser	Val	Ala	Ala	Asp	Asp	Asp	Thr	
		35					40					45				
Ser	Pro	Glu	Leu	Gln	Arg	Leu	Ala	Glu	Met	Asp	Thr	Pro	Arg	Arg	Gly	
	50					55					60					
Arg	Gly	Gly	Phe	Gln	Arg	Ile	Val	Arg	Leu	Val	Gly	Val	Ile	Arg	Asp	
65					70				75						80	
Trp	Ala	Asn	Lys	Asn	Phe	Arg	Glu	Glu	Glu	Pro	Arg	Pro	Asp	Ser	Phe	
				85					90					95		
Leu	Glu	Arg	Phe	Arg	Gly	Pro	Glu	Leu	Gln	Thr	Val	Thr	Thr	His	Gln	
			100					105					110			
Gly	Asp	Asp	Lys	Gly	Gly	Lys	Asp	Gly	Glu	Gly	Lys	Gly	Thr	Lys	Lys	
		115					120					125				
Lys	Phe	Glu	Leu	Phe	Val	Leu	Asp	Pro	Ala	Gly	Asp	Trp	Tyr	Tyr	Arg	
	130					135					140					
Trp	Leu	Phe	Val	Ile	Ala	Met	Pro	Val	Leu	Tyr	Asn	Trp	Cys	Leu	Leu	
145					150					155					160	
Val	Ala	Arg	Ala	Cys	Phe	Ser	Asp	Leu	Gln	Arg	Asn	Tyr	Phe	Val	Val	
				165					170					175		
Trp	Leu	Val	Leu	Asp	Tyr	Phe	Ser	Asp	Thr	Val	Tyr	Ile	Ala	Asp	Leu	
			180					185					190			
Ile	Ile	Arg	Leu	Arg	Thr	Gly	Phe	Leu	Glu	Gln	Gly	Leu	Leu	Val	Lys	
		195				200						205				
Asp	Pro	Lys	Lys	Leu	Arg	Asp	Asn	Tyr	Ile	His	Thr	Leu	Gln	Phe	Lys	
	210					215					220					
Leu	Asp	Val	Ala	Ser	Ile	Ile	Pro	Thr	Asp	Leu	Ile	Tyr	Phe	Ala	Val	
225					230					235					240	
Gly	Ile	His	Ser	Pro	Glu	Val	Arg	Phe	Asn	Arg	Leu	Leu	His	Phe	Ala	
				245					250					255		
Arg	Met	Phe	Glu	Phe	Phe	Asp	Arg	Thr	Glu	Thr	Arg	Thr	Ser	Tyr	Pro	
			260					265					270			
Asn	Ile	Phe	Arg	Ile	Ser	Asn	Leu	Val	Leu	Tyr	Ile	Leu	Val	Ile	Ile	
		275					280					285				

His Trp Asn Ala Cys Ile Tyr Tyr Val Ile Ser Lys Ser Ile Gly Phe
 290 295 300
 Gly Val Asp Thr Trp Val Tyr Pro Asn Ile Thr Asp Pro Glu Tyr Gly
 305 310 315 320
 Tyr Leu Ala Arg Glu Tyr Ile Tyr Cys Leu Tyr Trp Ser Thr Leu Thr
 325 330 335
 Leu Thr Thr Ile Gly Glu Thr Pro Pro Pro Val Lys Asp Glu Glu Tyr
 340 345 350
 Leu Phe Val Ile Phe Asp Phe Leu Ile Gly Val Leu Ile Phe Ala Thr
 355 360 365
 Ile Val Gly Asn Val Gly Ser Met Ile Ser Asn Met Asn Ala Thr Arg
 370 375 380
 Ala Glu Phe Gln Ala Lys Ile Asp Ala Val Lys His Tyr Met Gln Phe
 385 390 395 400
 Arg Lys Val Ser Lys Asp Met Glu Ala Lys Val Ile Lys Trp Phe Asp
 405 410 415
 Tyr Leu Trp Thr Asn Lys Lys Thr Val Asp Glu Arg Glu Val Leu Lys
 420 425 430
 Asn Leu Pro Ala Lys Leu Arg Ala Glu Ile Ala Ile Asn Val His Leu
 435 440 445
 Ser Thr Leu Lys Lys Val Arg Ile Phe Gln Asp Trp Glu Ala Gly Leu
 450 455 460
 Leu Val Glu Leu Val Leu Lys Leu Arg Pro Gln Val Phe Ser Pro Gly
 465 470 475 480
 Asp Tyr Ile Cys Arg Lys Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile
 485 490 495
 Lys Glu Gly Lys Leu Ala Val Val Ala Asp Asp Gly Val Thr Gln Tyr
 500 505 510
 Ala Leu Leu Ser Ala Gly Ser Cys Phe Gly Glu Ile Ser Ile Leu Asn
 515 520 525
 Ile Lys Gly Ser Lys Met Gly Asn Arg Arg Thr Ala Asn Ile Arg Ser
 530 535 540
 Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met Glu
 545 550 555 560
 Ala Val Thr Glu Ala Pro Asp Ala Lys Lys Val Leu Glu Glu Arg Gly
 565 570 575
 Arg Glu Ile Leu Met Lys Met Gly Leu Leu Asp Glu Asn Glu Val Ala
 580 585 590

Ala Ser Met Glu Val Asp Val Gln Glu Lys Leu Glu Gln Leu Glu Thr
595 600 605

Asn Met Asp Thr Leu Tyr Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr
610 615 620

Thr Gly Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr
625 630 635 640

Lys Met Lys Gln Asn His Glu Asp Asp Tyr Leu Ser Asp Gly Ile Asn
645 650 655

Thr Pro Glu Pro Thr Ala Ala Glu
660

<210> 9
<211> 690
<212> PRT
<213> Homo sapiens

<220>
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<222> (1)..(690)
<223> CNGA1

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Val Thr Met Pro Asn Val Ile Val Pro Asp Ile Glu Lys Glu Ile Arg
20 25 30

Arg Met Glu Asn Gly Ala Cys Ser Ser Phe Ser Glu Asp Asp Asp Ser
35 40 45

Ala Tyr Thr Ser Glu Glu Ser Glu Asn Glu Asn Pro His Ala Arg Gly
50 55 60

Ser Phe Ser Tyr Lys Ser Leu Arg Lys Gly Gly Pro Ser Gln Arg Glu
65 70 75 80

Gln Tyr Leu Pro Gly Ala Ile Ala Ile Phe Asn Val Asn Asn Ser Ser
85 90 95

Asn Lys Asp Gln Glu Pro Glu Glu Lys Lys Lys Lys Lys Glu Lys
100 105 110

Lys Ser Lys Ser Asp Asp Lys Asn Glu Asn Lys Asn Asp Pro Glu Lys
115 120 125

Lys Lys Lys Lys Lys Asp Lys Glu Lys Lys Lys Lys Glu Glu Lys Ser
130 135 140

Lys Asp Lys Lys Glu His His Lys Lys Glu Val Val Val Ile Asp Pro
145 150 155 160

Ser Gly Asn Thr Tyr Tyr Asn Trp Leu Phe Cys Ile Thr Leu Pro Val
 165 170 175
 Met Tyr Asn Trp Thr Met Val Ile Ala Arg Ala Cys Phe Asp Glu Leu
 180 185 190
 Gln Ser Asp Tyr Leu Glu Tyr Trp Leu Ile Leu Asp Tyr Val Ser Asp
 195 200 205
 Ile Val Tyr Leu Ile Asp Met Phe Val Arg Thr Arg Thr Gly Tyr Leu
 210 215 220
 Glu Gln Gly Leu Leu Val Lys Glu Glu Leu Lys Leu Ile Asn Lys Tyr
 225 230 235 240
 Lys Ser Asn Leu Gln Phe Lys Leu Asp Val Leu Ser Leu Ile Pro Thr
 245 250 255
 Asp Leu Leu Tyr Phe Lys Leu Gly Trp Asn Tyr Pro Glu Ile Arg Leu
 260 265 270
 Asn Arg Leu Leu Arg Phe Ser Arg Met Phe Glu Phe Phe Gln Arg Thr
 275 280 285
 Glu Thr Arg Thr Asn Tyr Pro Asn Ile Phe Arg Ile Ser Asn Leu Val
 290 295 300
 Met Tyr Ile Val Ile Ile Ile His Trp Asn Ala Cys Val Phe Tyr Ser
 305 310 315 320
 Ile Ser Lys Ala Ile Gly Phe Gly Asn Asp Thr Trp Val Tyr Pro Asp
 325 330 335
 Ile Asn Asp Pro Glu Phe Gly Arg Leu Ala Arg Lys Tyr Val Tyr Ser
 340 345 350
 Leu Tyr Trp Ser Thr Leu Thr Leu Thr Thr Ile Gly Glu Thr Pro Pro
 355 360 365
 Pro Val Arg Asp Ser Glu Tyr Val Phe Val Val Val Asp Phe Leu Ile
 370 375 380
 Gly Val Leu Ile Phe Ala Thr Ile Val Gly Asn Ile Gly Ser Met Ile
 385 390 395 400
 Ser Asn Met Asn Ala Ala Arg Ala Glu Phe Gln Ala Arg Ile Asp Ala
 405 410 415
 Ile Lys Gln Tyr Met His Phe Arg Asn Val Ser Lys Asp Met Glu Lys
 420 425 430
 Arg Val Ile Lys Trp Phe Asp Tyr Leu Trp Thr Asn Lys Lys Thr Val
 435 440 445
 Asp Glu Lys Glu Val Leu Lys Tyr Leu Pro Asp Lys Leu Arg Ala Glu
 450 455 460

Ile Ala Ile Asn Val His Leu Asp Thr Leu Lys Lys Val Arg Ile Phe
 465 470 475 480
 Ala Asp Cys Glu Ala Gly Leu Leu Val Glu Leu Val Leu Lys Leu Gln
 485 490 495
 Pro Gln Val Tyr Ser Pro Gly Asp Tyr Ile Cys Lys Lys Gly Asp Ile
 500 505 510
 Gly Arg Glu Met Tyr Ile Ile Lys Glu Gly Lys Leu Ala Val Val Ala
 515 520 525
 Asp Asp Gly Val Thr Gln Phe Val Val Leu Ser Asp Gly Ser Thr Phe
 530 535 540
 Gly Glu Ile Ser Ile Leu Asn Ile Lys Gly Ser Lys Ala Gly Asn Arg
 545 550 555 560
 Arg Thr Ala Asn Ile Lys Ser Ile Gly Tyr Ser Asp Leu Phe Cys Leu
 565 570 575
 Ser Lys Asp Asp Leu Met Glu Ala Leu Thr Glu Tyr Pro Asp Ala Lys
 580 585 590
 Thr Met Leu Glu Glu Lys Gly Lys Gln Ile Leu Met Lys Asp Gly Leu
 595 600 605
 Leu Asp Leu Asn Ile Ala Asn Ala Gly Ser Asp Pro Lys Asp Leu Glu
 610 615 620
 Glu Lys Val Thr Arg Met Glu Gly Ser Val Asp Leu Leu Gln Thr Arg
 625 630 635 640
 Phe Ala Arg Ile Leu Ala Glu Tyr Glu Ser Met Gln Gln Lys Leu Lys
 645 650 655
 Gln Arg Leu Thr Lys Val Glu Lys Phe Leu Lys Pro Leu Ile Asp Thr
 660 665 670
 Glu Phe Ser Ser Ile Glu Gly Pro Trp Ser Glu Ser Gly Pro Ile Asp
 675 680 685
 Ser Thr
 690

<210> 10
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 <212> PRT
 <213> Homo sapiens

 <220>
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 <222> (1)..(664)
 <223> CNGA2

<400> 10

Met Thr Glu Lys Thr Asn Gly Val Lys Ser Ser Pro Ala Asn Asn His
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Asn His His Ala Pro Pro Ala Ile Lys Ala Asn Gly Lys Asp Asp His
20 25 30

Arg Thr Ser Ser Arg Pro His Ser Ala Ala Asp Asp Asp Thr Ser Ser
35 40 45

Glu Leu Gln Arg Leu Ala Asp Val Asp Ala Pro Gln Gln Gly Arg Ser
50 55 60

Gly Phe Arg Arg Ile Val Arg Leu Val Gly Ile Ile Arg Glu Trp Ala
65 70 75 80

Asn Lys Asn Phe Arg Glu Glu Glu Pro Arg Pro Asp Ser Phe Leu Glu
85 90 95

Arg Phe Arg Gly Pro Glu Leu Gln Thr Val Thr Thr Gln Glu Gly Asp
100 105 110

Gly Lys Gly Asp Lys Asp Gly Glu Asp Lys Gly Thr Lys Lys Lys Phe
115 120 125

Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr Tyr Cys Trp Leu
130 135 140

Phe Val Ile Ala Met Pro Val Leu Tyr Asn Trp Cys Leu Leu Val Ala
145 150 155 160

Arg Ala Cys Phe Ser Asp Leu Gln Lys Gly Tyr Tyr Leu Val Trp Leu
165 170 175

Val Leu Asp Tyr Val Ser Asp Val Val Tyr Ile Ala Asp Leu Phe Ile
180 185 190

Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Lys Asp Thr
195 200 205

Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Leu Gln Phe Lys Leu Asp
210 215 220

Val Ala Ser Ile Ile Pro Thr Asp Leu Ile Tyr Phe Ala Val Asp Ile
225 230 235 240

His Ser Pro Glu Val Arg Phe Asn Arg Leu Leu His Phe Ala Arg Met
245 250 255

Phe Glu Phe Phe Asp Arg Thr Glu Thr Arg Thr Asn Tyr Pro Asn Ile
260 265 270

Phe Arg Ile Ser Asn Leu Val Leu Tyr Ile Leu Val Ile Ile His Trp
275 280 285

Asn Ala Cys Ile Tyr Tyr Ala Ile Ser Lys Ser Ile Gly Phe Gly Val
290 295 300

Asp	Thr	Trp	Val	Tyr	Pro	Asn	Ile	Thr	Asp	Pro	Glu	Tyr	Gly	Tyr	Leu	305	310	315	320
Ala	Arg	Glu	Tyr	Ile	Tyr	Cys	Leu	Tyr	Trp	Ser	Thr	Leu	Thr	Leu	Thr	325	330	335	
Thr	Ile	Gly	Glu	Thr	Pro	Pro	Pro	Val	Lys	Asp	Glu	Glu	Tyr	Leu	Phe	340	345	350	
Val	Ile	Phe	Asp	Phe	Leu	Ile	Gly	Val	Leu	Ile	Phe	Ala	Thr	Ile	Val	355	360	365	
Gly	Asn	Val	Gly	Ser	Met	Ile	Ser	Asn	Met	Asn	Ala	Thr	Arg	Ala	Glu	370	375	380	
Phe	Gln	Ala	Lys	Ile	Asp	Ala	Val	Lys	His	Tyr	Met	Gln	Phe	Arg	Lys	385	390	395	400
Val	Ser	Lys	Gly	Met	Glu	Ala	Lys	Val	Ile	Arg	Trp	Phe	Asp	Tyr	Leu	405	410	415	
Trp	Thr	Asn	Lys	Lys	Thr	Val	Asp	Glu	Arg	Glu	Ile	Leu	Lys	Asn	Leu	420	425	430	
Pro	Ala	Lys	Leu	Arg	Ala	Glu	Ile	Ala	Ile	Asn	Val	His	Leu	Ser	Thr	435	440	445	
Leu	Lys	Lys	Val	Arg	Ile	Phe	His	Asp	Cys	Glu	Ala	Gly	Leu	Leu	Val	450	455	460	
Glu	Leu	Val	Leu	Lys	Leu	Arg	Pro	Gln	Val	Phe	Ser	Pro	Gly	Asp	Tyr	465	470	475	480
Ile	Cys	Arg	Lys	Gly	Asp	Ile	Gly	Lys	Glu	Met	Tyr	Ile	Ile	Lys	Glu	485	490	495	
Gly	Lys	Leu	Ala	Val	Val	Ala	Asp	Asp	Gly	Val	Thr	Gln	Tyr	Ala	Leu	500	505	510	
Leu	Ser	Ala	Gly	Ser	Cys	Phe	Gly	Glu	Ile	Ser	Ile	Leu	Asn	Ile	Lys	515	520	525	
Gly	Ser	Lys	Met	Gly	Asn	Arg	Arg	Thr	Ala	Asn	Ile	Arg	Ser	Leu	Gly	530	535	540	
Tyr	Ser	Asp	Leu	Phe	Cys	Leu	Ser	Lys	Asp	Asp	Leu	Met	Glu	Ala	Val	545	550	555	560
Thr	Glu	Tyr	Pro	Asp	Ala	Lys	Lys	Val	Leu	Glu	Glu	Arg	Gly	Arg	Glu	565	570	575	
Ile	Leu	Met	Lys	Glu	Gly	Leu	Leu	Asp	Glu	Asn	Glu	Val	Ala	Thr	Ser	580	585	590	
Met	Glu	Val	Asp	Val	Gln	Glu	Lys	Leu	Gly	Gln	Leu	Glu	Thr	Asn	Met	595	600	605	

Glu Thr Leu Tyr Thr Arg Phe Gly Arg Leu Leu Ala Glu Tyr Thr Gly
 610 615 620
 Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr Lys Met
 625 630 635 640
 Lys Gln Asn Asn Glu Asp Asp Tyr Leu Ser Asp Gly Met Asn Ser Pro
 645 650 655
 Glu Leu Ala Ala Ala Asp Glu Pro
 660

<210> 11
 <211> 694
 <212> PRT
 <213> Homo sapiens

<220>
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 <222> (1)..(694)
 <223> CNGA3

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 Met Ala Lys Ile Asn Thr Gln Tyr Ser His Pro Ser Arg Thr His Leu
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 Lys Val Lys Thr Ser Asp Arg Asp Leu Asn Arg Ala Glu Asn Gly Leu
 20 25 30
 Ser Arg Ala His Ser Ser Ser Glu Glu Thr Ser Ser Val Leu Gln Pro
 35 40 45
 Gly Ile Ala Met Glu Thr Arg Gly Leu Ala Asp Ser Gly Gln Gly Ser
 50 55 60
 Phe Thr Gly Gln Gly Ile Ala Arg Leu Ser Arg Leu Ile Phe Leu Leu
 65 70 75 80
 Arg Arg Trp Ala Ala Arg His Val His His Gln Asp Gln Gly Pro Asp
 85 90 95
 Ser Phe Pro Asp Arg Phe Arg Gly Ala Glu Leu Lys Glu Val Ser Ser
 100 105 110
 Gln Glu Ser Asn Ala Gln Ala Asn Val Gly Ser Gln Glu Pro Ala Asp
 115 120 125
 Arg Gly Arg Ser Ala Trp Pro Leu Ala Lys Cys Asn Thr Asn Thr Ser
 130 135 140
 Asn Asn Thr Glu Glu Glu Lys Lys Thr Lys Lys Lys Asp Ala Ile Val
 145 150 155 160
 Val Asp Pro Ser Ser Asn Leu Tyr Tyr Arg Trp Leu Thr Ala Ile Ala
 165 170 175

Leu Pro Val Phe Tyr Asn Trp Tyr Leu Leu Ile Cys Arg Ala Cys Phe
 180 185 190
 Asp Glu Leu Gln Ser Glu Tyr Leu Met Leu Trp Leu Val Leu Asp Tyr
 195 200 205
 Ser Ala Asp Val Leu Tyr Val Leu Asp Val Leu Val Arg Ala Arg Thr
 210 215 220
 Gly Phe Leu Glu Gln Gly Leu Met Val Ser Asp Thr Asn Arg Leu Trp
 225 230 235 240
 Gln His Tyr Lys Thr Thr Thr Gln Phe Lys Leu Asp Val Leu Ser Leu
 245 250 255
 Val Pro Thr Asp Leu Ala Tyr Leu Lys Val Gly Thr Asn Tyr Pro Glu
 260 265 270
 Val Arg Phe Asn Arg Leu Leu Lys Phe Ser Arg Leu Phe Glu Phe Phe
 275 280 285
 Asp Arg Thr Glu Thr Arg Thr Asn Tyr Pro Asn Met Phe Arg Ile Gly
 290 295 300
 Asn Leu Val Leu Tyr Ile Leu Ile Ile Ile His Trp Asn Ala Cys Ile
 305 310 315 320
 Tyr Phe Ala Ile Ser Lys Phe Ile Gly Phe Gly Thr Asp Ser Trp Val
 325 330 335
 Tyr Pro Asn Ile Ser Ile Pro Glu His Gly Arg Leu Ser Arg Lys Tyr
 340 345 350
 Ile Tyr Ser Leu Tyr Trp Ser Thr Leu Thr Leu Thr Thr Ile Gly Glu
 355 360 365
 Thr Pro Pro Pro Val Lys Asp Glu Glu Tyr Leu Phe Val Val Val Asp
 370 375 380
 Phe Leu Val Gly Val Leu Ile Phe Ala Thr Ile Val Gly Asn Val Gly
 385 390 395 400
 Ser Met Ile Ser Asn Met Asn Ala Ser Arg Ala Glu Phe Gln Ala Lys
 405 410 415
 Ile Asp Ser Ile Lys Gln Tyr Met Gln Phe Arg Lys Val Thr Lys Asp
 420 425 430
 Leu Glu Thr Arg Val Ile Arg Trp Phe Asp Tyr Leu Trp Ala Asn Lys
 435 440 445
 Lys Thr Val Asp Glu Lys Glu Val Leu Lys Ser Leu Pro Asp Lys Leu
 450 455 460
 Lys Ala Glu Ile Ala Ile Asn Val His Leu Asp Thr Leu Lys Lys Val
 465 470 475 480

Arg Ile Phe Gln Asp Cys Glu Ala Gly Leu Leu Val Glu Leu Val Leu
 485 490 495
 Lys Leu Arg Pro Thr Val Phe Ser Pro Gly Asp Tyr Ile Cys Lys Lys
 500 505 510
 Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile Asn Glu Gly Lys Leu Ala
 515 520 525
 Val Val Ala Asp Asp Gly Val Thr Gln Phe Val Val Leu Ser Asp Gly
 530 535 540
 Ser Tyr Phe Gly Glu Ile Ser Ile Leu Asn Ile Lys Gly Ser Lys Ser
 545 550 555 560
 Gly Asn Arg Arg Thr Ala Asn Ile Arg Ser Ile Gly Tyr Ser Asp Leu
 565 570 575
 Phe Cys Leu Ser Lys Asp Asp Leu Met Glu Ala Leu Thr Glu Tyr Pro
 580 585 590
 Glu Ala Lys Lys Ala Leu Glu Glu Lys Gly Arg Gln Ile Leu Met Lys
 595 600 605
 Asp Asn Leu Ile Asp Glu Glu Leu Ala Arg Ala Gly Ala Asp Pro Lys
 610 615 620
 Asp Leu Glu Glu Lys Val Glu Gln Leu Gly Ser Ser Leu Asp Thr Leu
 625 630 635 640
 Gln Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr Asn Ala Thr Gln Met
 645 650 655
 Lys Met Lys Gln Arg Leu Ser Gln Leu Glu Ser Gln Val Lys Gly Gly
 660 665 670
 Gly Asp Lys Pro Leu Ala Asp Gly Glu Val Pro Gly Asp Ala Thr Lys
 675 680 685
 Thr Glu Asp Lys Gln Gln
 690

<210> 12
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 <212> PRT
 <213> Homo sapiens

<220>
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 <222> (1) .. (1245)
 <223> CNGB1

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Arg	Lys	Thr	Lys	Met	Gln	Glu	Glu	Glu	Glu	Val	Glu	Pro	Glu	Pro	Glu	
			20					25					30			
Met	Glu	Ala	Glu	Val	Glu	Pro	Glu	Pro	Asn	Pro	Glu	Glu	Ala	Glu	Thr	
		35					40				45					
Glu	Ser	Glu	Ser	Met	Pro	Pro	Glu	Glu	Ser	Phe	Lys	Glu	Glu	Glu	Val	
	50					55					60					
Ala	Val	Ala	Asp	Pro	Ser	Pro	Gln	Glu	Thr	Lys	Glu	Ala	Ala	Leu	Thr	
65					70					75					80	
Ser	Thr	Ile	Ser	Leu	Arg	Ala	Gln	Gly	Ala	Glu	Ile	Ser	Glu	Met	Asn	
				85					90					95		
Ser	Pro	Ser	His	Arg	Val	Leu	Thr	Trp	Leu	Met	Lys	Gly	Val	Glu	Lys	
			100					105					110			
Val	Ile	Pro	Gln	Pro	Val	His	Ser	Ile	Thr	Glu	Asp	Pro	Ala	Gln	Ile	
		115					120					125				
Leu	Gly	His	Gly	Ser	Thr	Gly	Asp	Thr	Gly	Cys	Thr	Asp	Glu	Pro	Asn	
	130					135					140					
Glu	Ala	Leu	Glu	Ala	Gln	Asp	Thr	Arg	Pro	Gly	Leu	Arg	Leu	Leu	Leu	
145					150					155					160	
Trp	Leu	Glu	Gln	Asn	Leu	Glu	Arg	Val	Leu	Pro	Gln	Pro	Pro	Lys	Ser	
				165					170					175		
Ser	Glu	Val	Trp	Arg	Asp	Glu	Pro	Ala	Val	Ala	Thr	Ala	Pro	Pro	Gly	
			180					185					190			
Arg	Pro	Gln	Glu	Met	Gly	Pro	Lys	Leu	Gln	Ala	Arg	Glu	Thr	Pro	Ser	
		195					200					205				
Leu	Pro	Thr	Pro	Ile	Pro	Leu	Gln	Pro	Lys	Glu	Glu	Pro	Lys	Glu	Ala	
	210					215					220					
Pro	Ala	Pro	Glu	Pro	Gln	Pro	Gly	Ser	Gln	Ala	Gln	Thr	Ser	Ser	Leu	
225					230					235					240	
Pro	Pro	Thr	Arg	Asp	Pro	Ala	Arg	Leu	Val	Ala	Trp	Val	Leu	His	Arg	
				245					250					255		
Leu	Glu	Met	Ala	Leu	Pro	Gln	Pro	Val	Leu	His	Gly	Lys	Ile	Gly	Glu	
		260						265					270			
Gln	Glu	Pro	Asp	Ser	Pro	Gly	Ile	Cys	Asp	Val	Gln	Thr	Ile	Ser	Ile	
		275					280					285				
Leu	Pro	Gly	Gly	Gln	Val	Glu	Pro	Asp	Leu	Val	Leu	Glu	Glu	Val	Glu	
	290					295					300					
Pro	Pro	Trp	Glu	Asp	Ala	His	Gln	Asp	Val	Ser	Thr	Ser	Pro	Gln	Gly	
305					310					315					320	

Thr Glu Val Val Pro Ala Tyr Glu Glu Glu Asn Lys Ala Val Glu Lys
 325 330 335
 Met Pro Arg Glu Leu Ser Arg Ile Glu Glu Glu Lys Glu Asp Glu Glu
 340 345 350
 Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Val Thr Glu
 355 360 365
 Val Leu Leu Asp Ser Cys Val Val Ser Gln Val Gly Val Gly Gln Ser
 370 375 380
 Glu Glu Asp Gly Thr Arg Pro Gln Ser Thr Ser Asp Gln Lys Leu Trp
 385 390 395 400
 Glu Glu Val Gly Glu Glu Ala Lys Lys Glu Ala Glu Glu Lys Ala Lys
 405 410 415
 Glu Glu Ala Glu Glu Val Ala Glu Glu Glu Ala Glu Lys Glu Pro Gln
 420 425 430
 Asp Trp Ala Glu Thr Lys Glu Glu Pro Glu Ala Glu Ala Glu Ala Ala
 435 440 445
 Ser Ser Gly Val Pro Ala Thr Lys Gln His Pro Glu Val Gln Val Glu
 450 455 460
 Asp Thr Asp Ala Asp Ser Cys Pro Leu Met Ala Glu Glu Asn Pro Pro
 465 470 475 480
 Ser Thr Val Leu Pro Pro Pro Ser Pro Ala Lys Ser Asp Thr Leu Ile
 485 490 495
 Val Pro Ser Ser Ala Ser Gly Thr His Arg Lys Lys Leu Pro Ser Glu
 500 505 510
 Asp Asp Glu Ala Glu Glu Leu Lys Ala Leu Ser Pro Ala Glu Ser Pro
 515 520 525
 Val Val Ala Trp Ser Asp Pro Thr Thr Pro Lys Asp Thr Asp Gly Gln
 530 535 540
 Asp Arg Ala Ala Ser Thr Ala Ser Thr Asn Ser Ala Ile Ile Asn Asp
 545 550 555 560
 Arg Leu Gln Glu Leu Val Lys Leu Phe Lys Glu Arg Thr Glu Lys Val
 565 570 575
 Lys Glu Lys Leu Ile Asp Pro Asp Val Thr Ser Asp Glu Glu Ser Pro
 580 585 590
 Lys Pro Ser Pro Ala Lys Lys Ala Pro Glu Pro Ala Pro Asp Thr Lys
 595 600 605
 Pro Ala Glu Ala Glu Pro Val Glu Glu Glu His Tyr Cys Asp Met Leu

610					615					620					
Cys	Cys	Lys	Phe	Lys	His	Arg	Pro	Trp	Lys	Lys	Tyr	Gln	Phe	Pro	Gln
625					630					635					640
Ser	Ile	Asp	Pro	Leu	Thr	Asn	Leu	Met	Tyr	Val	Leu	Trp	Leu	Phe	Phe
				645					650					655	
Val	Val	Met	Ala	Trp	Asn	Trp	Asn	Cys	Trp	Leu	Ile	Pro	Val	Arg	Trp
			660					665					670		
Ala	Phe	Pro	Tyr	Gln	Thr	Pro	Asp	Asn	Ile	His	His	Trp	Leu	Leu	Met
		675					680					685			
Asp	Tyr	Leu	Cys	Asp	Leu	Ile	Tyr	Phe	Leu	Asp	Ile	Thr	Val	Phe	Gln
	690					695					700				
Thr	Arg	Leu	Gln	Phe	Val	Arg	Gly	Gly	Asp	Ile	Ile	Thr	Asp	Lys	Lys
705					710					715					720
Asp	Met	Arg	Asn	Asn	Tyr	Leu	Lys	Ser	Arg	Arg	Phe	Lys	Met	Asp	Leu
			725						730					735	
Leu	Ser	Leu	Leu	Pro	Leu	Asp	Phe	Leu	Tyr	Leu	Lys	Val	Gly	Val	Asn
			740					745					750		
Pro	Leu	Leu	Arg	Leu	Pro	Arg	Cys	Leu	Lys	Tyr	Met	Ala	Phe	Phe	Glu
		755					760					765			
Phe	Asn	Ser	Arg	Leu	Glu	Ser	Ile	Leu	Ser	Lys	Ala	Tyr	Val	Tyr	Arg
	770					775					780				
Val	Ile	Arg	Thr	Thr	Ala	Tyr	Leu	Leu	Tyr	Ser	Leu	His	Leu	Asn	Ser
785					790					795					800
Cys	Leu	Tyr	Tyr	Trp	Ala	Ser	Ala	Tyr	Gln	Gly	Leu	Gly	Ser	Thr	His
				805					810					815	
Trp	Val	Tyr	Asp	Gly	Val	Gly	Asn	Ser	Tyr	Ile	Arg	Cys	Tyr	Tyr	Phe
			820				825						830		
Ala	Val	Lys	Thr	Leu	Ile	Thr	Ile	Gly	Gly	Leu	Pro	Asp	Pro	Lys	Thr
		835					840					845			
Leu	Phe	Glu	Ile	Val	Phe	Gln	Leu	Leu	Asn	Tyr	Phe	Thr	Gly	Val	Phe
	850					855					860				
Ala	Phe	Ser	Val	Met	Ile	Gly	Gln	Met	Arg	Asp	Val	Val	Gly	Ala	Ala
865						870					875				880
Thr	Ala	Gly	Gln	Thr	Tyr	Tyr	Arg	Ser	Cys	Met	Asp	Ser	Thr	Val	Lys
			885						890					895	
Tyr	Met	Asn	Phe	Tyr	Lys	Ile	Pro	Lys	Ser	Val	Gln	Asn	Arg	Val	Lys
		900						905					910		
Thr	Trp	Tyr	Glu	Tyr	Thr	Trp	His	Ser	Gln	Gly	Met	Leu	Asp	Glu	Ser

915					920					925					
Glu	Leu	Met	Val	Gln	Leu	Pro	Asp	Lys	Met	Arg	Leu	Asp	Leu	Ala	Ile
930						935					940				
Asp	Val	Asn	Tyr	Asn	Ile	Val	Ser	Lys	Val	Ala	Leu	Phe	Gln	Gly	Cys
945					950					955					960
Asp	Arg	Gln	Met	Ile	Phe	Asp	Met	Leu	Lys	Arg	Leu	Arg	Ser	Val	Val
				965					970					975	
Tyr	Leu	Pro	Asn	Asp	Tyr	Val	Cys	Lys	Lys	Gly	Glu	Ile	Gly	Arg	Glu
			980					985					990		
Met	Tyr	Ile	Ile	Gln	Ala	Gly	Gln	Val	Gln	Val	Leu	Gly	Gly	Pro	Asp
		995					1000					1005			
Gly	Lys	Ser	Val	Leu	Val	Thr	Leu	Lys	Ala	Gly	Ser	Val	Phe	Gly	
	1010					1015					1020				
Glu	Ile	Ser	Leu	Leu	Ala	Val	Gly	Gly	Gly	Asn	Arg	Arg	Thr	Ala	
	1025					1030					1035				
Asn	Val	Val	Ala	His	Gly	Phe	Thr	Asn	Leu	Phe	Ile	Leu	Asp	Lys	
	1040					1045					1050				
Lys	Asp	Leu	Asn	Glu	Ile	Leu	Val	His	Tyr	Pro	Glu	Ser	Gln	Lys	
	1055					1060					1065				
Leu	Leu	Arg	Lys	Lys	Ala	Arg	Arg	Met	Leu	Arg	Ser	Asn	Asn	Lys	
	1070					1075					1080				
Pro	Lys	Glu	Glu	Lys	Ser	Val	Leu	Ile	Leu	Pro	Pro	Arg	Ala	Gly	
	1085					1090					1095				
Thr	Pro	Lys	Leu	Phe	Asn	Ala	Ala	Leu	Ala	Met	Thr	Gly	Lys	Met	
	1100					1105					1110				
Gly	Gly	Lys	Gly	Ala	Lys	Gly	Gly	Lys	Leu	Ala	His	Leu	Arg	Ala	
	1115					1120					1125				
Arg	Leu	Lys	Glu	Leu	Ala	Ala	Leu	Glu	Ala	Ala	Ala	Lys	Gln	Gln	
	1130					1135					1140				
Glu	Leu	Val	Glu	Gln	Ala	Lys	Ser	Ser	Gln	Asp	Val	Lys	Gly	Glu	
	1145					1150					1155				
Glu	Gly	Ser	Ala	Ala	Pro	Asp	Gln	His	Thr	His	Pro	Lys	Glu	Ala	
	1160					1165					1170				
Ala	Thr	Asp	Pro	Pro	Ala	Pro	Arg	Thr	Pro	Pro	Glu	Pro	Pro	Gly	
	1175					1180					1185				
Ser	Pro	Pro	Ser	Ser	Pro	Pro	Pro	Ala	Ser	Leu	Gly	Arg	Pro	Glu	
	1190					1195					1200				
Gly	Glu	Glu	Glu	Gly	Pro	Ala	Glu	Pro	Glu	Glu	His	Ser	Val	Arg	

1205		1210		1215
Ile Cys Met Ser Pro Gly Pro Glu Pro Gly Glu Gln Ile Leu Ser				
1220		1225		1230
Val Lys Met Pro Glu Glu Arg Glu Glu Lys Ala Glu				
1235		1240		1245

<210> 13
 <211> 575
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> MISC_FEATURE
 <222> (1)..(575)
 <223> CNGB2

 <400> 13

Met Ser Gln Asp Thr Lys Val Lys Thr Thr Glu Ser Ser Pro Pro Ala				
1	5		10	15
Pro Ser Lys Ala Arg Lys Leu Leu Pro Val Leu Asp Pro Ser Gly Asp				
	20		25	30
Tyr Tyr Tyr Trp Trp Leu Asn Thr Met Val Phe Pro Val Met Tyr Asn				
	35		40	45
Leu Ile Ile Leu Val Cys Arg Ala Cys Phe Pro Asp Leu Gln His Gly				
	50		55	60
Tyr Leu Val Ala Trp Leu Val Leu Asp Tyr Thr Ser Asp Leu Leu Tyr				
	65		70	75
Leu Leu Asp Met Val Val Arg Phe His Thr Gly Phe Leu Glu Gln Gly				
	85		90	95
Ile Leu Val Val Asp Lys Gly Arg Ile Ser Ser Arg Tyr Val Arg Thr				
	100		105	110
Trp Ser Phe Phe Leu Asp Leu Ala Ser Leu Met Pro Thr Asp Val Val				
	115		120	125
Tyr Val Arg Leu Gly Pro His Thr Pro Thr Leu Arg Leu Asn Arg Phe				
	130		135	140
Leu Arg Ala Pro Arg Leu Phe Glu Ala Phe Asp Arg Thr Glu Thr Arg				
	145		150	155
Thr Ala Tyr Pro Asn Ala Phe Arg Ile Ala Lys Leu Met Leu Tyr Ile				
	165		170	175
Phe Val Val Ile His Trp Asn Ser Cys Leu Tyr Phe Ala Leu Ser Arg				
	180		185	190
Tyr Leu Gly Phe Gly Arg Asp Ala Trp Val Tyr Pro Asp Pro Ala Gln				

195					200					205					
Pro	Gly	Phe	Glu	Arg	Leu	Arg	Arg	Gln	Tyr	Leu	Tyr	Ser	Phe	Tyr	Phe
	210					215					220				
Ser	Thr	Leu	Ile	Leu	Thr	Thr	Val	Gly	Asp	Thr	Pro	Pro	Pro	Ala	Arg
	225					230					235				240
Glu	Glu	Glu	Tyr	Leu	Phe	Met	Val	Gly	Asp	Phe	Leu	Leu	Ala	Val	Met
				245					250					255	
Gly	Phe	Ala	Thr	Ile	Met	Gly	Ser	Met	Ser	Ser	Val	Ile	Tyr	Asn	Met
			260					265					270		
Asn	Thr	Ala	Asp	Ala	Ala	Phe	Tyr	Pro	Asp	His	Ala	Leu	Val	Lys	Lys
		275					280					285			
Tyr	Met	Lys	Leu	Gln	His	Val	Asn	Arg	Lys	Leu	Glu	Arg	Arg	Val	Ile
	290					295					300				
Asp	Trp	Tyr	Gln	His	Leu	Gln	Ile	Asn	Lys	Lys	Met	Thr	Asn	Glu	Val
	305					310					315				320
Ala	Ile	Leu	Gln	His	Leu	Pro	Glu	Arg	Leu	Arg	Ala	Glu	Val	Ala	Val
				325					330					335	
Ser	Val	His	Leu	Ser	Thr	Leu	Ser	Arg	Val	Gln	Ile	Phe	Gln	Asn	Cys
			340					345					350		
Glu	Ala	Ser	Leu	Leu	Glu	Glu	Leu	Val	Leu	Lys	Leu	Gln	Pro	Gln	Thr
		355					360					365			
Tyr	Ser	Pro	Gly	Glu	Tyr	Val	Cys	Arg	Lys	Gly	Asp	Ile	Gly	Gln	Glu
	370					375					380				
Met	Tyr	Ile	Ile	Arg	Glu	Gly	Gln	Leu	Ala	Val	Val	Ala	Asp	Asp	Gly
	385					390					395				400
Ile	Thr	Gln	Tyr	Ala	Val	Leu	Gly	Ala	Gly	Leu	Tyr	Phe	Gly	Glu	Ile
				405					410					415	
Ser	Ile	Ile	Asn	Ile	Lys	Gly	Asn	Met	Ser	Gly	Asn	Arg	Arg	Thr	Ala
			420					425					430		
Asn	Ile	Lys	Ser	Leu	Gly	Tyr	Ser	Asp	Leu	Phe	Cys	Leu	Ser	Lys	Glu
		435					440					445			
Asp	Leu	Arg	Glu	Val	Leu	Ser	Glu	Tyr	Pro	Gln	Ala	Gln	Thr	Ile	Met
	450					455					460				
Glu	Glu	Lys	Gly	Arg	Glu	Ile	Leu	Leu	Lys	Met	Asn	Lys	Leu	Asp	Val
	465					470					475				480
Asn	Ala	Glu	Ala	Ala	Glu	Ile	Ala	Leu	Gln	Glu	Ala	Thr	Glu	Ser	Arg
				485					490					495	
Leu	Arg	Gly	Leu	Asp	Gln	Gln	Leu	Asp	Asp	Leu	Gln	Thr	Lys	Phe	Ala

500					505					510					
Arg	Leu	Leu	Ala	Glu	Leu	Glu	Ser	Ser	Ala	Leu	Lys	Ile	Ala	Tyr	Arg
	515						520					525			
Ile	Glu	Arg	Leu	Glu	Trp	Gln	Thr	Arg	Glu	Trp	Pro	Met	Pro	Glu	Asp
	530					535					540				
Leu	Ala	Glu	Ala	Asp	Asp	Glu	Gly	Glu	Pro	Glu	Glu	Gly	Thr	Ser	Lys
545					550					555					560
Asp	Glu	Glu	Gly	Arg	Ala	Ser	Gln	Glu	Gly	Pro	Pro	Gly	Pro	Glu	
			565						570					575	

<210> 14
 <211> 615
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MISC_FEATURE
 <222> (1)..(615)
 <223> CNGB3

<400> 14

Met	Pro	Leu	Thr	Glu	Tyr	Leu	Lys	Arg	Ile	Lys	Leu	Pro	Asn	Ser	Ile
1				5					10					15	
Asp	Ser	Tyr	Thr	Asp	Arg	Leu	Tyr	Leu	Leu	Trp	Leu	Leu	Leu	Val	Thr
			20					25					30		
Leu	Ala	Tyr	Asn	Trp	Asn	Cys	Trp	Phe	Ile	Pro	Leu	Arg	Leu	Val	Phe
	35						40					45			
Pro	Tyr	Gln	Thr	Ala	Asp	Asn	Ile	His	Tyr	Trp	Leu	Ile	Ala	Asp	Ile
	50					55					60				
Ile	Cys	Asp	Ile	Ile	Tyr	Leu	Tyr	Asp	Met	Leu	Phe	Ile	Gln	Pro	Arg
65					70				75						80
Leu	Gln	Phe	Val	Arg	Gly	Gly	Asp	Ile	Ile	Val	Asp	Ser	Asn	Glu	Leu
			85						90					95	
Arg	Lys	His	Tyr	Arg	Thr	Ser	Thr	Lys	Phe	Gln	Leu	Asp	Val	Ala	Ser
			100					105					110		
Ile	Ile	Pro	Phe	Asp	Ile	Cys	Tyr	Leu	Phe	Phe	Gly	Phe	Asn	Pro	Met
	115						120					125			
Phe	Arg	Ala	Asn	Arg	Met	Leu	Lys	Tyr	Thr	Ser	Phe	Phe	Glu	Phe	Asn
	130					135					140				
His	His	Leu	Glu	Ser	Ile	Met	Asp	Lys	Ala	Tyr	Ile	Tyr	Arg	Val	Ile
145					150					155					160
Arg	Thr	Thr	Gly	Tyr	Leu	Leu	Phe	Ile	Leu	His	Ile	Asn	Ala	Cys	Val
			165						170					175	

Tyr	Tyr	Trp	Ala	Ser	Asn	Tyr	Glu	Gly	Ile	Gly	Thr	Thr	Arg	Trp	Val	180	185	190
Tyr	Asp	Gly	Glu	Gly	Asn	Glu	Tyr	Leu	Arg	Cys	Tyr	Tyr	Trp	Ala	Val	195	200	205
Arg	Thr	Leu	Ile	Thr	Ile	Gly	Gly	Leu	Pro	Glu	Pro	Gln	Thr	Leu	Phe	210	215	220
Glu	Ile	Val	Phe	Gln	Leu	Leu	Asn	Phe	Phe	Ser	Gly	Val	Phe	Val	Phe	225	230	235
Ser	Ser	Leu	Ile	Gly	Gln	Met	Arg	Asp	Val	Ile	Gly	Ala	Ala	Thr	Ala	245	250	255
Asn	Gln	Asn	Tyr	Phe	Arg	Ala	Cys	Met	Asp	Asp	Thr	Ile	Ala	Tyr	Met	260	265	270
Asn	Asn	Tyr	Ser	Ile	Pro	Lys	Leu	Val	Gln	Lys	Arg	Val	Arg	Thr	Trp	275	280	285
Tyr	Glu	Tyr	Thr	Trp	Asp	Ser	Gln	Arg	Met	Leu	Asp	Glu	Ser	Asp	Leu	290	295	300
Leu	Lys	Thr	Leu	Pro	Thr	Thr	Val	Gln	Leu	Ala	Leu	Ala	Ile	Asp	Val	305	310	315
Asn	Phe	Ser	Ile	Ile	Ser	Lys	Val	Asp	Leu	Phe	Lys	Gly	Cys	Asp	Thr	325	330	335
Gln	Met	Ile	Tyr	Asp	Met	Leu	Leu	Arg	Leu	Lys	Ser	Val	Leu	Tyr	Leu	340	345	350
Pro	Gly	Asp	Phe	Val	Cys	Lys	Lys	Gly	Glu	Ile	Gly	Lys	Glu	Met	Tyr	355	360	365
Ile	Ile	Lys	His	Gly	Glu	Val	Gln	Val	Leu	Gly	Gly	Pro	Asp	Gly	Thr	370	375	380
Lys	Val	Leu	Val	Thr	Leu	Lys	Ala	Gly	Ser	Val	Phe	Gly	Glu	Ile	Ser	385	390	395
Leu	Leu	Ala	Ala	Gly	Gly	Gly	Asn	Arg	Arg	Thr	Ala	Asn	Val	Val	Ala	405	410	415
His	Gly	Phe	Ala	Asn	Leu	Leu	Thr	Leu	Asp	Lys	Lys	Thr	Leu	Gln	Glu	420	425	430
Ile	Leu	Val	His	Tyr	Pro	Asp	Ser	Glu	Arg	Ile	Leu	Met	Lys	Lys	Ala	435	440	445
Arg	Val	Leu	Leu	Lys	Gln	Lys	Ala	Lys	Thr	Ala	Glu	Ala	Thr	Pro	Pro	450	455	460
Arg	Lys	Asp	Leu	Ala	Leu	Leu	Phe	Pro	Pro	Lys	Glu	Glu	Thr	Pro	Lys	465	470	475

Leu Phe Lys Thr Leu Leu Gly Gly Thr Gly Lys Ala Ser Leu Ala Arg
 485 490 495
 Leu Leu Lys Leu Lys Arg Glu Gln Ala Ala Gln Lys Lys Glu Asn Ser
 500 505 510
 Glu Gly Gly Glu Glu Glu Gly Lys Glu Asn Glu Asp Lys Gln Lys Glu
 515 520 525
 Asn Glu Asp Lys Gln Lys Glu Asn Glu Asp Lys Gly Lys Glu Asn Glu
 530 535 540
 Asp Lys Asp Lys Gly Arg Glu Pro Glu Glu Lys Pro Leu Asp Arg Pro
 545 550 555 560
 Glu Cys Thr Ala Ser Pro Ile Ala Val Glu Glu Glu Pro His Ser Val
 565 570 575
 Arg Arg Thr Val Leu Pro Arg Gly Thr Ser Arg Gln Ser Leu Ile Ile
 580 585 590
 Ser Met Ala Pro Ser Ala Glu Gly Gly Glu Glu Val Leu Thr Ile Glu
 595 600 605
 Val Lys Glu Lys Ala Lys Gln
 610 615

<210> 15
 <211> 664
 <212> PRT
 <213> Mus musculus

<220>
 <221> MISC_FEATURE
 <222> (1)..(664)
 <223> CNGA2

<400> 15
 Met Met Thr Glu Lys Ser Asn Gly Val Lys Ser Ser Pro Ala Asn Asn
 1 5 10 15
 His Asn His His Pro Pro Pro Ser Ile Lys Ala Asn Gly Lys Asp Asp
 20 25 30
 His Arg Ala Gly Ser Arg Pro Gln Ser Val Ala Ala Asp Asp Asp Thr
 35 40 45
 Ser Ser Glu Leu Gln Arg Leu Ala Glu Met Asp Thr Pro Arg Arg Gly
 50 55 60
 Arg Gly Gly Phe Arg Arg Ile Val Arg Leu Val Gly Ile Ile Arg Asp
 65 70 75 80
 Trp Ala Asn Lys Asn Phe Arg Glu Glu Glu Pro Arg Pro Asp Ser Phe
 85 90 95

Leu Glu Arg Phe Arg Gly Pro Glu Leu Gln Thr Val Thr Pro His Gln
 100 105 110
 Gly Asp Gly Lys Gly Asp Lys Asp Gly Glu Gly Lys Gly Thr Lys Lys
 115 120 125
 Lys Phe Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr Tyr Arg
 130 135 140
 Trp Leu Phe Val Ile Ala Met Pro Val Leu Tyr Asn Trp Cys Leu Leu
 145 150 155 160
 Val Ala Arg Ala Cys Phe Ser Asp Leu Gln Arg Asn Tyr Phe Val Val
 165 170 175
 Trp Leu Val Leu Asp Tyr Phe Ser Asp Thr Val Tyr Ile Ala Asp Leu
 180 185 190
 Ile Ile Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Lys
 195 200 205
 Asp Pro Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Leu Gln Phe Lys
 210 215 220
 Leu Asp Val Ala Ser Ile Ile Pro Thr Asp Leu Ile Tyr Phe Ala Val
 225 230 235 240
 Gly Ile His Ser Pro Glu Val Arg Phe Asn Arg Leu Leu His Phe Ala
 245 250 255
 Arg Met Phe Glu Phe Phe Asp Arg Thr Glu Thr Arg Thr Ser Tyr Pro
 260 265 270
 Asn Ile Phe Arg Ile Ser Asn Leu Val Leu Tyr Ile Leu Val Ile Ile
 275 280 285
 His Trp Asn Ala Cys Ile Tyr Tyr Ala Ile Ser Lys Ser Ile Gly Phe
 290 295 300
 Gly Val Asp Thr Trp Val Tyr Pro Asn Ile Thr Asp Pro Glu Tyr Gly
 305 310 315 320
 Tyr Leu Ala Arg Glu Tyr Ile Tyr Cys Leu Tyr Trp Ser Thr Leu Thr
 325 330 335
 Leu Thr Thr Ile Gly Glu Thr Pro Pro Pro Val Lys Asp Glu Glu Tyr
 340 345 350
 Leu Phe Phe Ile Phe Asp Phe Leu Ile Gly Val Leu Ile Phe Ala Thr
 355 360 365
 Ile Val Gly Asn Val Gly Ser Met Ile Ser Asn Met Asn Ala Thr Arg
 370 375 380
 Ala Glu Phe Gln Ala Lys Ile Asp Ala Val Lys His Tyr Met Gln Phe
 385 390 395 400

Arg Lys Val Ser Lys Asp Met Glu Ala Lys Val Ile Lys Trp Phe Asp
 405 410 415
 Tyr Leu Trp Thr Asn Lys Lys Thr Val Asp Glu Arg Glu Val Leu Lys
 420 425 430
 Asn Leu Pro Ala Lys Leu Arg Ala Glu Ile Ala Ile Asn Val His Leu
 435 440 445
 Ser Thr Leu Lys Lys Val Arg Ile Phe Gln Asp Cys Glu Ala Gly Leu
 450 455 460
 Leu Val Glu Leu Val Leu Lys Leu Arg Pro Gln Val Phe Ser Pro Gly
 465 470 475 480
 Asp Tyr Ile Cys Arg Lys Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile
 485 490 495
 Lys Glu Gly Lys Leu Ala Val Val Ala Asp Asp Gly Val Thr Gln Tyr
 500 505 510
 Ala Leu Leu Ser Ala Gly Ser Cys Phe Gly Glu Ile Ser Ile Leu Asn
 515 520 525
 Ile Lys Gly Ser Lys Met Gly Asn Arg Arg Thr Gly Thr Ile Arg Ser
 530 535 540
 Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met Glu
 545 550 555 560
 Ala Val Thr Glu Tyr Pro Asp Ala Lys Lys Val Leu Glu Glu Arg Gly
 565 570 575
 Arg Glu Ile Leu Met Lys Glu Gly Leu Leu Asp Glu Asn Glu Val Ala
 580 585 590
 Ala Ser Met Glu Val Asp Val Gln Glu Lys Leu Glu Gln Leu Glu Thr
 595 600 605
 Asn Met Glu Thr Leu Tyr Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr
 610 615 620
 Thr Gly Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr
 625 630 635 640
 Lys Met Lys Gln Asn His Glu Asp Asp Tyr Leu Ser Asp Gly Ile Asn
 645 650 655
 Thr Pro Glu Pro Ala Val Ala Glu
 660

<210> 16
 <211> 732
 <212> PRT
 <213> Oryctolagus cuniculus

<220>

<221> MISC_FEATURE

<222> (1) .. (732)

<223> CNGA2

<400> 16

Met Ser Ser Trp Arg Ser Cys Ala Arg Ala Pro Leu Ser Gly Ser Ala
1 5 10 15

Trp Arg Arg Ser Ala Ala Thr Arg Arg Ser Arg Arg Cys Leu Lys Thr
20 25 30

Lys Arg Lys Arg Trp Ser Ser Gly Lys Gly Thr Pro Met Gln Ser Thr
35 40 45

Gln Cys Glu Thr Arg Arg Arg Ala Gln Thr Pro Cys Glu Ser Thr Gly
50 55 60

His Thr Trp Arg Met Thr Glu Lys Ser Asn Gly Val Lys Ser Ser Pro
65 70 75 80

Ala Asn Asn His Asn Asn His Val Pro Ala Thr Ile Lys Ala Asn Gly
85 90 95

Lys Asp Glu Ser Arg Thr Arg Ser Arg Pro Gln Ser Ala Ala Asp Asp
100 105 110

Asp Thr Ser Ser Glu Leu Gln Arg Leu Ala Glu Met Asp Ala Pro Gln
115 120 125

Gln Arg Arg Gly Gly Phe Arg Arg Ile Val Arg Leu Val Gly Val Ile
130 135 140

Arg Gln Trp Ala Asn Arg Asn Phe Arg Glu Glu Glu Ala Arg Pro Asp
145 150 155 160

Ser Phe Leu Glu Arg Phe Arg Gly Pro Glu Leu Gln Thr Val Thr Thr
165 170 175

Gln Gln Gly Asp Gly Lys Gly Asp Lys Asp Gly Asp Gly Lys Gly Thr
180 185 190

Lys Lys Lys Phe Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr
195 200 205

Tyr Arg Trp Leu Phe Val Ile Ala Met Pro Val Leu Tyr Asn Trp Cys
210 215 220

Leu Leu Val Ala Arg Ala Cys Phe Ser Asp Leu Gln Arg Gly Tyr Phe
225 230 235 240

Leu Val Trp Leu Val Leu Asp Tyr Phe Ser Asp Val Val Tyr Ile Ala
245 250 255

Asp Leu Phe Ile Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu
260 265 270

Val Lys Asp Pro Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Leu Gln
 275 280 285
 Phe Lys Leu Asp Val Ala Ser Ile Ile Pro Thr Asp Leu Ile Tyr Phe
 290 295 300
 Ala Val Gly Ile His Asn Pro Glu Leu Arg Phe Asn Arg Leu Leu His
 305 310 315 320
 Phe Ala Arg Met Phe Glu Phe Phe Asp Arg Thr Glu Thr Arg Thr Ser
 325 330 335
 Tyr Pro Asn Ile Phe Arg Ile Ser Asn Leu Val Leu Tyr Ile Leu Val
 340 345 350
 Ile Ile His Trp Asn Ala Cys Ile Tyr Tyr Ala Ile Ser Lys Ser Ile
 355 360 365
 Gly Phe Gly Val Asp Thr Trp Val Tyr Pro Asn Ile Thr Asp Pro Glu
 370 375 380
 Tyr Gly Tyr Leu Ala Arg Glu Tyr Ile Tyr Cys Leu Tyr Trp Ser Thr
 385 390 395 400
 Leu Thr Leu Thr Thr Ile Gly Glu Thr Pro Pro Pro Val Lys Asp Glu
 405 410 415
 Glu Tyr Leu Phe Val Ile Phe Asp Phe Leu Ile Gly Val Leu Ile Phe
 420 425 430
 Ala Thr Ile Val Gly Asn Val Gly Ser Met Ile Ser Asn Met Asn Ala
 435 440 445
 Thr Arg Ala Glu Phe Gln Ala Lys Ile Asp Ala Val Lys His Tyr Met
 450 455 460
 Gln Phe Arg Lys Val Ser Lys Glu Met Glu Ala Lys Val Ile Lys Trp
 465 470 475 480
 Phe Asp Tyr Leu Trp Thr Asn Lys Lys Thr Val Asp Glu Arg Glu Val
 485 490 495
 Leu Lys Asn Leu Pro Ala Lys Leu Arg Ala Glu Ile Ala Ile Asn Val
 500 505 510
 His Leu Ser Thr Leu Lys Lys Val Arg Ile Phe Gln Asp Cys Glu Ala
 515 520 525
 Gly Leu Leu Val Glu Leu Val Leu Lys Leu Arg Pro Gln Val Phe Ser
 530 535 540
 Pro Gly Asp Tyr Ile Cys Arg Lys Gly Asp Ile Gly Lys Glu Met Tyr
 545 550 555 560
 Ile Ile Lys Glu Gly Lys Leu Ala Val Val Ala Asp Asp Gly Val Thr
 565 570 575

Gln Tyr Ala Leu Leu Ser Ala Gly Ser Cys Phe Gly Glu Ile Ser Ile
 580 585 590
 Leu Asn Ile Lys Gly Ser Lys Met Gly Asn Arg Arg Thr Ala Asn Ile
 595 600 605
 Arg Ser Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu
 610 615 620
 Met Glu Ala Val Thr Glu Tyr Pro Asp Ala Lys Lys Val Leu Glu Glu
 625 630 635 640
 Arg Gly Arg Glu Ile Leu Met Lys Glu Gly Leu Leu Asp Glu Asn Glu
 645 650 655
 Val Ala Ala Ser Met Glu Val Asp Val Gln Glu Lys Leu Lys Gln Leu
 660 665 670
 Glu Thr Asn Met Glu Thr Leu Tyr Thr Arg Phe Gly Arg Leu Leu Ala
 675 680 685
 Glu Tyr Thr Gly Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu
 690 695 700
 Glu Val Lys Met Lys Gln Asn Thr Glu Asp Asp Tyr Leu Ser Asp Gly
 705 710 715 720
 Met Asn Ser Pro Glu Pro Ala Ala Ala Glu Gln Pro
 725 730

<210> 17
 <211> 663
 <212> PRT
 <213> Bos taurus

<220>
 <221> MISC_FEATURE
 <222> (1)..(663)
 <223> CNGA2

<400> 17
 Met Thr Glu Lys Ala Asn Gly Val Lys Ser Ser Pro Ala Asn Asn His
 1 5 10 15
 Asn His His Ala Pro Pro Ala Ile Lys Ala Ser Gly Lys Asp Asp His
 20 25 30
 Arg Ala Ser Ser Arg Pro Gln Ser Ala Ala Ala Asp Asp Thr Ser Ser
 35 40 45
 Glu Leu Gln Gln Leu Ala Glu Met Asp Ala Pro Gln Gln Arg Arg Gly
 50 55 60
 Gly Phe Arg Arg Ile Ala Arg Leu Val Gly Val Leu Arg Glu Trp Ala
 65 70 75 80

Tyr Arg Asn Phe Arg Glu Glu Glu Pro Arg Pro Asp Ser Phe Leu Glu
 85 90 95
 Arg Phe Arg Gly Pro Glu Leu His Thr Val Thr Thr Gln Gln Gly Asp
 100 105 110
 Gly Lys Gly Asp Lys Asp Gly Glu Gly Lys Gly Thr Lys Lys Lys Phe
 115 120 125
 Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr Tyr Arg Trp Leu
 130 135 140
 Phe Leu Ile Ala Leu Pro Val Leu Tyr Asn Trp Cys Leu Leu Val Ala
 145 150 155 160
 Arg Ala Cys Phe Ser Asp Leu Gln Lys Gly Tyr Tyr Ile Val Trp Leu
 165 170 175
 Val Leu Asp Tyr Val Ser Asp Val Val Tyr Ile Ala Asp Leu Phe Ile
 180 185 190
 Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Lys Asp Thr
 195 200 205
 Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Met Gln Phe Lys Leu Asp
 210 215 220
 Val Ala Ser Ile Ile Pro Thr Asp Leu Ile Tyr Phe Ala Val Gly Ile
 225 230 235 240
 His Asn Pro Glu Val Arg Phe Asn Arg Leu Leu His Phe Ala Arg Met
 245 250 255
 Phe Glu Phe Phe Asp Arg Thr Glu Thr Arg Thr Ser Tyr Pro Asn Ile
 260 265 270
 Phe Arg Ile Ser Asn Leu Ile Leu Tyr Ile Leu Ile Ile Ile His Trp
 275 280 285
 Asn Ala Cys Ile Tyr Tyr Ala Ile Ser Lys Ser Ile Gly Phe Gly Val
 290 295 300
 Asp Thr Trp Val Tyr Pro Asn Ile Thr Asp Pro Glu Tyr Gly Tyr Leu
 305 310 315 320
 Ser Arg Glu Tyr Ile Tyr Cys Leu Tyr Trp Ser Thr Leu Thr Leu Thr
 325 330 335
 Thr Ile Gly Glu Thr Pro Pro Pro Val Lys Asp Glu Glu Tyr Leu Phe
 340 345 350
 Val Ile Phe Asp Phe Leu Ile Gly Val Leu Ile Phe Ala Thr Ile Val
 355 360 365
 Gly Asn Val Gly Ser Met Ile Ser Asn Met Asn Ala Thr Arg Ala Glu
 370 375 380

Phe Gln Ala Lys Ile Asp Ala Val Lys His Tyr Met Gln Phe Arg Lys
385 390 395 400
Val Ser Lys Glu Met Glu Ala Lys Val Ile Arg Trp Phe Asp Tyr Leu
405 410 415
Trp Thr Asn Lys Lys Ser Val Asp Glu Arg Glu Val Leu Lys Asn Leu
420 425 430
Pro Ala Lys Leu Arg Ala Glu Ile Ala Ile Asn Val His Leu Ser Thr
435 440 445
Leu Lys Lys Val Arg Ile Phe Gln Asp Cys Glu Ala Gly Leu Leu Val
450 455 460
Glu Leu Val Leu Lys Leu Arg Pro Gln Val Phe Ser Pro Gly Asp Tyr
465 470 475 480
Ile Cys Arg Lys Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile Lys Glu
485 490 495
Gly Lys Leu Ala Val Val Ala Asp Asp Gly Val Thr Gln Tyr Ala Leu
500 505 510
Leu Ser Ala Gly Ser Cys Phe Gly Glu Ile Ser Ile Leu Asn Ile Lys
515 520 525
Gly Ser Lys Met Gly Asn Arg Arg Thr Ala Asn Ile Arg Ser Leu Gly
530 535 540
Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met Glu Ala Val
545 550 555 560
Thr Glu Tyr Pro Asp Ala Lys Arg Val Leu Glu Glu Arg Gly Arg Glu
565 570 575
Ile Leu Met Lys Glu Gly Leu Leu Asp Glu Asn Glu Val Ala Ala Ser
580 585 590
Met Glu Val Asp Val Gln Glu Lys Leu Glu Gln Leu Glu Thr Asn Met
595 600 605
Asp Thr Leu Tyr Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr Thr Gly
610 615 620
Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr Lys Met
625 630 635 640
Lys Gln Asn Asn Glu Asp Asp Ser Leu Ser Asp Gly Met Asn Ser Pro
645 650 655
Glu Pro Pro Ala Glu Lys Pro
660

<210> 18
<211> 664

<212> PRT
 <213> artificial

 <220>
 <223> mammalian CNGA2 consensus sequence

 <220>
 <221> MISC_FEATURE
 <222> (1)..(664)
 <223> Xaa = any naturally occurring amino acid

<400> 18
 Met Met Thr Glu Lys Ser Asn Gly Val Lys Ser Ser Pro Ala Asn Asn
 1 5 10 15

 His Asn His His Ala Pro Pro Ala Ile Lys Ala Asn Gly Lys Asp Asp
 20 25 30

 His Arg Ala Gly Ser Arg Pro Gln Ser Xaa Ala Ala Asp Asp Asp Thr
 35 40 45

 Ser Ser Glu Leu Gln Arg Leu Ala Glu Met Asp Ala Pro Gln Gln Gly
 50 55 60

 Arg Gly Gly Phe Arg Arg Ile Val Arg Leu Val Gly Val Ile Arg Asp
 65 70 75 80

 Trp Ala Asn Lys Asn Phe Arg Glu Glu Glu Pro Arg Pro Asp Ser Phe
 85 90 95

 Leu Glu Arg Phe Arg Gly Pro Glu Leu Gln Thr Val Thr Thr Gln Gln
 100 105 110

 Gly Asp Gly Lys Gly Asp Lys Asp Gly Glu Gly Lys Gly Thr Lys Lys
 115 120 125

 Lys Phe Glu Leu Phe Val Leu Asp Pro Ala Gly Asp Trp Tyr Tyr Arg
 130 135 140

 Trp Leu Phe Val Ile Ala Met Pro Val Leu Tyr Asn Trp Cys Leu Leu
 145 150 155 160

 Val Ala Arg Ala Cys Phe Ser Asp Leu Gln Arg Gly Tyr Phe Val Val
 165 170 175

 Trp Leu Val Leu Asp Tyr Phe Ser Asp Val Val Tyr Ile Ala Asp Leu
 180 185 190

 Phe Ile Arg Leu Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Lys
 195 200 205

 Asp Pro Lys Lys Leu Arg Asp Asn Tyr Ile His Thr Leu Gln Phe Lys
 210 215 220

 Leu Asp Val Ala Ser Ile Ile Pro Thr Asp Leu Ile Tyr Phe Ala Val
 225 230 235 240

Gly	Ile	His	Ser	Pro	Glu	Val	Arg	Phe	Asn	Arg	Leu	Leu	His	Phe	Ala	245	250	255
Arg	Met	Phe	Glu	Phe	Phe	Asp	Arg	Thr	Glu	Thr	Arg	Thr	Ser	Tyr	Pro	260	265	270
Asn	Ile	Phe	Arg	Ile	Ser	Asn	Leu	Val	Leu	Tyr	Ile	Leu	Val	Ile	Ile	275	280	285
His	Trp	Asn	Ala	Cys	Ile	Tyr	Tyr	Ala	Ile	Ser	Lys	Ser	Ile	Gly	Phe	290	295	300
Gly	Val	Asp	Thr	Trp	Val	Tyr	Pro	Asn	Ile	Thr	Asp	Pro	Glu	Tyr	Gly	305	310	315
Tyr	Leu	Ala	Arg	Glu	Tyr	Ile	Tyr	Cys	Leu	Tyr	Trp	Ser	Thr	Leu	Thr	325	330	335
Leu	Thr	Thr	Ile	Gly	Glu	Thr	Pro	Pro	Pro	Val	Lys	Asp	Glu	Glu	Tyr	340	345	350
Leu	Phe	Val	Ile	Phe	Asp	Phe	Leu	Ile	Gly	Val	Leu	Ile	Phe	Ala	Thr	355	360	365
Ile	Val	Gly	Asn	Val	Gly	Ser	Met	Ile	Ser	Asn	Met	Asn	Ala	Thr	Arg	370	375	380
Ala	Glu	Phe	Gln	Ala	Lys	Ile	Asp	Ala	Val	Lys	His	Tyr	Met	Gln	Phe	385	390	395
Arg	Lys	Val	Ser	Lys	Asp	Met	Glu	Ala	Lys	Val	Ile	Lys	Trp	Phe	Asp	405	410	415
Tyr	Leu	Trp	Thr	Asn	Lys	Lys	Thr	Val	Asp	Glu	Arg	Glu	Val	Leu	Lys	420	425	430
Asn	Leu	Pro	Ala	Lys	Leu	Arg	Ala	Glu	Ile	Ala	Ile	Asn	Val	His	Leu	435	440	445
Ser	Thr	Leu	Lys	Lys	Val	Arg	Ile	Phe	Gln	Asp	Cys	Glu	Ala	Gly	Leu	450	455	460
Leu	Val	Glu	Leu	Val	Leu	Lys	Leu	Arg	Pro	Gln	Val	Phe	Ser	Pro	Gly	465	470	475
Asp	Tyr	Ile	Cys	Arg	Lys	Gly	Asp	Ile	Gly	Lys	Glu	Met	Tyr	Ile	Ile	485	490	495
Lys	Glu	Gly	Lys	Leu	Ala	Val	Val	Ala	Asp	Asp	Gly	Val	Thr	Gln	Tyr	500	505	510
Ala	Leu	Leu	Ser	Ala	Gly	Ser	Cys	Phe	Gly	Glu	Ile	Ser	Ile	Leu	Asn	515	520	525
Ile	Lys	Gly	Ser	Lys	Met	Gly	Asn	Arg	Arg	Thr	Ala	Asn	Ile	Arg	Ser	530	535	540

Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met Glu
 545 550 555 560
 Ala Val Thr Glu Tyr Pro Asp Ala Lys Lys Val Leu Glu Glu Arg Gly
 565 570 575
 Arg Glu Ile Leu Met Lys Glu Gly Leu Leu Asp Glu Asn Glu Val Ala
 580 585 590
 Ala Ser Met Glu Val Asp Val Gln Glu Lys Leu Glu Gln Leu Glu Thr
 595 600 605
 Asn Met Glu Thr Leu Tyr Thr Arg Phe Ala Arg Leu Leu Ala Glu Tyr
 610 615 620
 Thr Gly Ala Gln Gln Lys Leu Lys Gln Arg Ile Thr Val Leu Glu Thr
 625 630 635 640
 Lys Met Lys Gln Asn Asn Glu Asp Asp Tyr Leu Ser Asp Gly Met Asn
 645 650 655
 Ser Pro Phe Pro Ala Ala Ala Glu
 660

<210> 19
 <211> 821
 <212> PRT
 <213> artificial

<220>
 <223> human CNGA and CNGB consensus sequence

<220>
 <221> MISC_FEATURE
 <222> (1)..(821)
 <223> Xaa = any naturally occurring amino acid

<400> 19
 Met Xaa Xaa Xaa Xaa Ile Gly Thr Gln Xaa Ser Xaa Xaa Ser Xaa Xaa
 1 5 10 15
 Asn Leu Xaa Val Pro Xaa Xaa Glu Lys Ala Xaa Xaa Arg Ala Glu Asn
 20 25 30
 Xaa Gly Xaa Ser Arg Ala His Ser Xaa Ala Asp Asp Xaa Ala Ser Xaa
 35 40 45
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Xaa Glu Xaa Leu Ala Asp Xaa Ala
 50 55 60
 Xaa Gly Ser Phe Ser Gly Xaa Gly Xaa Arg Lys Xaa Xaa Xaa Xaa Xaa
 65 70 75 80
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 85 90 95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Leu
100 105 110
Xaa Xaa Leu Xaa Arg Xaa Trp Ala Xaa Xaa Asn Val Arg Xaa Xaa Xaa
115 120 125
Pro Xaa Pro Asp Ser Glu Pro Glu Glu Phe Lys Xaa Xaa Xaa Xaa Xaa
130 135 140
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145 150 155 160
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
165 170 175
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
180 185 190
Glu Leu Lys Glu Val Lys Ser Gln Asp Xaa Asp Val Lys Xaa Asp Glu
195 200 205
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
210 215 220
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
225 230 235 240
Xaa Ser Glu Asp Lys Lys Xaa Lys Lys Lys Xaa Xaa Xaa Xaa Xaa Lys
245 250 255
Leu Leu Xaa Val Ile Asp Pro Ser Gly Asp Xaa Leu Tyr Tyr Leu Trp
260 265 270
Leu Phe Xaa Ile Ala Leu Pro Val Asn Tyr Asn Trp Cys Leu Leu Val
275 280 285
Ala Arg Ala Cys Phe Pro Asp Leu Gln Ser Asp Tyr Leu His Tyr Trp
290 295 300
Leu Val Leu Asp Tyr Val Ser Asp Val Val Tyr Leu Leu Asp Met Xaa
305 310 315 320
Phe Val Arg Thr Arg Thr Gly Phe Leu Glu Gln Gly Leu Leu Val Val
325 330 335
Asp Thr Asn Lys Leu Arg Asn Asn Tyr Lys Thr Thr Leu Gln Phe Lys
340 345 350
Leu Asp Val Ala Ser Leu Ile Pro Thr Asp Leu Leu Tyr Leu Lys Val
355 360 365
Gly Xaa Asn Tyr Pro Glu Val Arg Leu Asn Arg Leu Leu Lys Phe Ser
370 375 380
Arg Leu Phe Glu Phe Phe Asp Arg Thr Glu Thr Arg Thr Asn Tyr Pro
385 390 395 400

Asn Ile Phe Arg Ile Ile Asn Leu Val Leu Tyr Ile Leu Val Ile Ile
 405 410 415
 His Trp Asn Ala Cys Val Tyr Tyr Ala Ile Ser Lys Tyr Ile Gly Phe
 420 425 430
 Gly Thr Asp Thr Trp Val Tyr Pro Gly Ile Gly Asp Pro Glu Phe Gly
 435 440 445
 Arg Leu Ala Arg Glu Tyr Ile Tyr Ser Leu Tyr Trp Ser Thr Leu Thr
 450 455 460
 Leu Thr Thr Ile Gly Glu Thr Pro Pro Pro Val Thr Asp Glu Glu Tyr
 465 470 475 480
 Val Phe Val Val Val Asp Phe Leu Ile Gly Val Leu Ile Phe Ala Thr
 485 490 495
 Ile Val Gly Asn Met Gly Ser Val Ile Ser Asn Met Asn Ala Ala Arg
 500 505 510
 Ala Glu Phe Gln Ala Lys Ile Asp Ala Val Lys Gln Tyr Met Asn Phe
 515 520 525
 Arg Lys Val Ser Lys Asp Val Glu Lys Arg Val Ile Thr Trp Phe Asp
 530 535 540
 Tyr Leu Trp Thr Asn Lys Lys Thr Val Asp Glu Ser Glu Val Leu Lys
 545 550 555 560
 Xaa Leu Pro Asp Lys Leu Arg Ala Glu Ile Ala Ile Asn Val His Leu
 565 570 575
 Ser Thr Leu Ser Lys Val Arg Ile Phe Gln Asp Cys Glu Ala Gly Leu
 580 585 590
 Leu Val Glu Leu Val Leu Lys Leu Arg Pro Gln Val Tyr Ser Pro Gly
 595 600 605
 Asp Tyr Val Cys Lys Lys Gly Asp Ile Gly Lys Glu Met Tyr Ile Ile
 610 615 620
 Lys Glu Gly Lys Leu Ala Val Val Ala Asp Xaa Asp Gly Val Thr Gln
 625 630 635 640
 Leu Val Val Leu Ser Ala Gly Ser Val Phe Gly Glu Ile Ser Ile Leu
 645 650 655
 Asn Ile Lys Gly Ser Lys Ser Gly Asn Arg Arg Thr Ala Asn Ile Val
 660 665 670
 Ser Leu Gly Tyr Ser Asp Leu Phe Cys Leu Ser Lys Asp Asp Leu Met
 675 680 685
 Glu Ala Leu Thr Glu Tyr Pro Asp Ala Lys Lys Ile Leu Glu Glu Lys
 690 695 700

Gly	Arg	Glu	Ile	Leu	Met	Lys	Asp	Asn	Leu	Leu	Asp	Glu	Asn	Xaa	Ala	
705					710					715					720	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Ala	Gly	Xaa	Ala	Thr	Pro	
				725						730				735		
Lys	Asp	Leu	Glu	Glu	Lys	Leu	Gly	Gly	Leu	Gly	Lys	Ser	Xaa	Xaa	Xaa	
			740					745					750			
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Leu	Asp	Thr	Leu	Gln	Thr	Arg	Phe	Ala	Arg	
			755					760				765				
Leu	Leu	Ala	Glu	Tyr	Glu	Ala	Ala	Gln	Gln	Lys	Xaa	Xaa	Leu	Lys	Gln	
	770					775					780					
Arg	Leu	Ser	Xaa	Leu	Glu	Lys	Gln	Xaa	Lys	Glu	Gly	Xaa	Xaa	Xaa	Xaa	
785					790					795					800	
Asp	Xaa	Glu	Xaa	Ala	Asp	Asp	Glu	Gly	Glu	Pro	Asp	Glu	Xaa	Ala	Pro	
				805					810					815		
Xaa	Asp	Glu	Pro	Glu												
				820												